CENTIMETERS



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# A SELECTIVE MICROFILM EDITION PART V (1911-1919)

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The original documents in this edition are from the archives at the Edison National Historic Site at West Orange, New Jersey.

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# NAVAL CONSULTING BOARD AND RELATED WARTIME RESEARCH PAPERS

SPECIAL COLLECTIONS SERIES

# Naval Consulting Board and Related Wartime Research Papers Correspondence (1918)

These folders contain correspondence and other documents relating to Edisors role as president of the Naval Consulting Board (NCB), as well as to bis personal research for the U.S. Navy during the final year of World War I. The correspondents include Secretary of the Navy Josephus Daniels; J. Janvis Butler and W. Strother Smith of the Navy Dept.; NCB chairman William L. Saunders and secretary Thomas Robins; Andrew M. Hunt of the U.S. Shipping Board's Ship Protection Committee; and members of Edison's staff, including his personal assistant William H. Meadowcroft, chief engineer Miller Reese Hutchison, and experimenters Bruce R. Silver at Jones Point, New York, and Samuel C. Shaffner at Key West, Florida. Other correspondents include Harvey S. Firestone, Peter Cooper Hewitt, and officials of the Black Diamond Powder Co., the Ford Motor Co., and the Italian government.

Many of the documents relate to Edison's stay at the naval base in Key West during February-April 1918. The subjects covered include research arrangements, facilities, staffing, expenses, equipment and supplies, and the use of the USS Sachem. There are also items concerning Edison's plan to trade coal for Cuban sugar, the development of a hydrogen detector by Selden G. Warner, tests of sea anchors for the rapid turning of ships, and work on smoke bombs and incendiary devices. In addition, there are documents regarding the disagreement among Edison and other NCB members, including David W. Brunton, Frank J. Sprague, and Willis R. Whitney, about the site for a Naval Research Laboratory. Other letters deal with the need for antisubmarine research and a visit to the National Research Council's experimental station at New London, Connecticut, the leading site for such work. There are also a few letters discussing Edison's views at the end of the war. Several documents mention the need to reschedule NCB meetings as a result of the outbreak of Spanish influenza. Among the Edison experimenters represented in the documents are William Deans, Charles B. Hanford, John A. Hanley, Newman H. Holland, Paul D. Payne, and Henry G. Wolfe.

Approximately 30 percent of the documents have been selected. The unselected material includes unsolicited offers, requests, and submissions, most of which received a brief form reply. Other unselected documents include letters of transmittal and acknowledgment, routine interoffice

communications, Meadowcroft's personal correspondence; and test reports, technical documents, and other items pertaining to research projects not directly related to Edison. Also not selected are routine administrative correspondence regarding military service of personnel and documents concerning the production of war equipment by Thomas A. Edison, Inc.

Naval Consulting Board and Related Wartime Research Papers Correspondence January 1918

Jamary 2,1918.

U. S. S. Sachon, S. P. 192, Annapolis, Ed.

Doar lir. Silver;

I am in receipt of your favor of the Siet ultime, enclosing copies of your correspondence with Er. G. A. Richtor of the Bureau of Hince Experiment Station, in regard to Oleum.

Insemuch as your drumbed Cleum has not yet arrived, to cannot lot other its Richtor or it. Clerk have any. You certainly cennot spare any out of the small stock which you have at present. As the Boat is going sway so soon, the problem will be solved, as you cannot lot thom have the Cleum if, you are not the too.

I have called up the Genoral Chemical Coagein this afternment sent them if they had any returns
from the telegraph tracer. Zhoy-sey they have not,
but will push it all it is possible. Relirod affairs
are in a chaotic state at proceet, and it is practically
impossible to get any action on tracers. Zho General
Chemical Co. told me that the Southern Hailary Company
action thatever on tracers. This obtains also in
many other Hailary Companion.

ib. Mison wont back to washington this afternoon, and before going he asked not be say to you that you cught to have a supply of the "bont tune rope". Have you get planty of it? "If not, please telegraph no tramorrow where and how much to order you for the not the many than ammobile."

Yours very truly,

Cablo Address "Edison, New York"

From the Laboratory Thomas A. Edison, Orange, NJ vanuery 1, 1916.

Er. S. C. Shaffner, U.S.S.Saehem, S. P. 192, Annapolis, Hd.

Hy dear Mr. Shaffner:

linited this afternoon. Softer he left he eached not be trite and say to you that you ought to have several extra sall 'phones. He requested no to set whether you had to half-doon extra noon. If not, place of you had to you will be traded to the triple of the most of the set of the triple of the most of the triple of the results of the triple one.

The heilber situation has grown to be very bed, and it may effect your receiving materials for a wills. One of the Express Companies has just notified us that they requested their Drivers not to pick up any more Express matter until further notice. This will be undoubtedly followed by others.

and will attend to the matters noted this morning on my deek, and will attend to the matters noted. I am afreid that I have appeared aufully stupid to you in repeal to the cur tabou, but the boys here used so many different kinds of things I was not sure and whites to be certain about them.

Yours very truly,

May Meaower of Assistant to Ihr. Edison.

A/4200.

Ear tubis MoDurand

(interest

[ATTACHMENT/ENCLOSURE]



Ear tubes in use

January 3,1918.

Mr. S. Maganuma, c/o Mitsubishi Goshi Zaisha, 120 Broadway, Now York, H.Y.

Door Sir:-

you in regard to the Historian blocker which we are relief to your Company. I am see to think the are relief for your Company. I am see to them I still the finished, but I will try to write you more accurately about it in the certy part of nox took. The work is being hurried clong as fast as possible. Mike all other smartheturers in this veintry, we are aboutled wrippled for lock of coal, and have not cought to keep our bilding warm. Abordors, there will be a little our bilding warm about the work of the complete the daying within the next was ween or the car jet some coal.

Yours very truly,

Assistant to Mr. Edison.

A/4348.

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EOISON,
PETER CODPER HEWITY.
VICE PRESIDENT
WILLIAM L. SAUNDERS,
THOMAS ROBINS.
SECRETARY

OFFICE OF W. R. WHITNEY GENERAL ELECTRIC COMPAI SCHENECTADY, N. Y.

January 3, 1917

Mr. Thomas A. Edison,

Washington, D.C.

Dear Mr. Edison:

The following is quoted from Secretary Daniels' report for 1917, page 71:

"With war conditions increasing the meed for labor and building materials, it was believed to be a wise policy to defer for a time the building of the new experimental and research labor war to be the second of the second below the second below the laboratories generously offered and at the Bureau of Standards. The need for this establishment, however, is more clearly shown than ever, and its support is urgently advised."

If the support of such a laboratory is urgently advised, we cortainly cannot do better than lend some aid. While the bureaus of the Government are doing some of the work of the lawy, there is much of it left undone and much of it is being done by private capital. It is highly probable that, if a site is not chosen before the war is over. Congress will feel itself justified in not permitting new expense at a time when the Government indebtedness will be the greatest in its history.

If we decide on a site, it can certainly be purchased, even the some of the buildings could not be economically erected at present.

There has been started at New London a plant which is already much nearer to being a Mavy research laboratory than we have yet oreated, and it has grown and is growing like Topsy.. That is probably not the best place for a laboratory, and, so far as we know, no plans have been developed for carrying out at New London much of the work which a Mavy laboratory ought to do. The experience there shows, however, how easily a thing of that kind cam grow under war conditions. of the cold weather and the ice in the river, they are drawing submarine chasers up on the shore at this plant and installing thru the bottom and on the sides, various experimental devices. This work could be done with much greater efficiency in warmer climates. We think it is safe to say that there will be involved several hundred boats, witha great many experiments apiece, before this class of work is complete, if it ever is, and this is only a very small part of the experimental work we ought to be We ought to have a place where we could install a complete boiler system in an imitation boat hull on land. with powdered coal-making plant, for fuel tests.

not fair to ask the Shinping Board to install a new outfit which has not been given adequate test on a boat. We could simulate a boat's body, test such a device, and show the results as easily as by laying up a suitable vessel.

This powdered coal suggestion is only one of a number of the same kind of experiments - experiments entirely unsuited for the Bureau of Standards or even the Bureau of Mines to carry out. Take, for example, storage battery testing in general. The scarcity of submarines makes it almost imperative to build an initation submarine on shore and carry out the operations of the battery in a space with the dimensions and nature of the submarine, and to build there the suggested experimental devices for removal of gases or practical test of batteries.

In studying the driving engine for chasers and submarines, we have unearthed two new oil engines which ought to be built at once and tested under the requirements of chasers and submarines. One of these was designed by Commander Pisher, of the Newy. Facilities for this work must now be sought in the industriel plants of the country, tho this type of work, limited in application to the Newy's needs, should be carried out in its own shops. A simple low pressure engine, using the standard boiler dual.oil, has

shown members of the Board the apparent possibility of an engine with practical Diesel engine efficiency, but with much greater simplicity, and we are at a loss at present to know how to recommend the suitable making and testing of a complete engine.

In cases like the laboratory site, it is often true that any one of a number is better than no choice. A factory fitted solely for producing submarines, capable of turning one out in a few weeks and located anywhere in the United States, would be a knim better laboratory proposition than anything we have produced as a Maval Board, and for that reason, among others, we have been anxious to express preference for any site with unanimity.

The fact that the severity of the winter climate is greatly crippling the work at Mahant and Hew London and has forced us to send some men south for experimental work, makes it seem as the the suggested site on the Potemac River possesses a number of practical advantages. As the entire Board would be willing to agree on recommending this site, if you will do so, we were requested to ask you if you would consider it.

Yours very truly,

iv. Ruhitney

January 5, 1918.

Door Mr. Shaffnor:

I was notified over the telephone this morning that the Volt Ammeter was repaired and read; for delivery, so I have sent a men ever for it.

Yestorday I sent you by Parcel Post two of the ear tuber, cuch as were shown in your sketch cent to me a few days ago. I trust these will be received in good condition.

Please do not think that I overlooked your request for some Laboratory lotterhoods and onvelopes. I reprot to disappoint you about this, but it is a very stringent rule laid down by it. Edicon that our Labor-tooy lotterhoods and envelopes shall not be used secont right at the Laborator, and he more rule that the Laborator, and he more rule that the theory of the control of the court of the laid to be the control of the court of the control of the court of

with kindest regards to you all, I remain,

Yours very truly,

Hz Detector

G. N. Samury Sti.

The Fulton Company, Knezville, Tenn.

> Attention of Hr. C. H. Mynderso, Salos Managor.

Dear Sir:-

I find that we have still another possible use for Sylphons on an apparatus which ir. Edison is developing for the lavy Department, which contains a delicate pressure gage.

I wish you would us kind enough to sood me (4) 2-1/2" was may try some outon this dardos. I would nie oak that you make us a charge on those as I do not wish to impose upon your gonoroity.

Thanking you in advance for your attention, I am

Very truly yours,

JPC: GAF

CHIEF ENGINEER.

×®×

HOTEL POWHATAN

Much you. The Ear tubes record of the Ear tubes record of the Ear tubes record of the Caryon Real and corp toward Cable lor will not not over the lor and on on our way to key lived toward ( Moone, Burns, Hauly, and Hy self) will be at Charleston S.C. go Many ward, Moonday & Junes, to an to get a 140 "Stewns from Then for Key West. I protect will go lown from Charleston to Key West by Train to Make

arrangements there by the time The bout jets Then with the Boys and Huturd the Boat is to stay There with us wenter the Sachren can git out of the Ser in the Chrespular and get down There. The faction is in bound 8" of in down the day don't know blem it can get out, no trofic bouts on the bay any place Please adding is (nevon Burus. Hauf & My sef go havy gard Key wret Mr Unceland. Mr Ott, Florada. have left us, no doubt there by Now. The S.P. 65 has been let go". all is in fru shape on the Sachun. I have returned our Rul of wine to the Habershaw Go at yourkers for their inspection, to see of it is possible form to use it it is about the limit in roughum and will write The Menyour office to have the head sum from This office to go to youters and by it meled of so they can be just what was suit us for high smooth frish" The Weston people have not said a word about the nutu. Brat wisher tall

#**©**%. ,

HOTEL POWHATAN

Washington. D. C. Sunday 6 In Jany -/8

My Dear Mr Meadrwings

Some of your Men opone to

Me While them about wenting and

Meching back but loued 200 get

alling, on winatetine bridge. I

till the I had there out home and

wolf ach mos Shoffen send two

of Them them and all them for

\$35.00 agains ( lost When here 10000

tach) When they amon please hold

Thus then and of you hered one or

both tela Them and go to it"

Ryans

Manefus

Dran Un Meadow croft:

Shar was much or the stage written to you, but before sounds got them off they were accent herrory. Then is written off they were the triggeness assessing you that we write not by able to many before Thursday (theorem, earlost!) he you have no doubt heard from other sources. Un. Shuffer, Burns, health and Minne, have left for Key West with their apparents. They go by raid to Charleston and there by gormment boot to Key West. As Turbustance it, they write nothing the work with the source of the

Mow with sufference to the time of our stailing:
As I telegraphed, we write not be able to get
under way before. Then ice is strice about
8 wicker thick and while it has been warmen
those past two days it dearly seem to have, much
infrarer. It is boggy today and the Chiam
telle we that boy is fratty effective in breaking
it if after the case how haven up it will after
by a later daysone to vertice down the bay on

account of ice bles. We have occupied ourselves in storming our theory expulsionent below and making things seems for a possell roughtrup around Hattens.

The addition to the Conditions we have to cond again before Starting. It took were reported that morning, and we have to alwait the wound of a leave Coak Barga from Baltimone Theo will survey as soon as they are able to broke through there.

The weather condition is containly measured,

This weather condition is certainly unevenly but there is avery indication of breaking up . -

I approced the fact that I tear given you a problem in sending the statelance anleydride.

Three lases it sutricely to your progressest three a new idea the other large, and would like to try it out. The car down to a one brills:

(5th). The records are a matter of small importance.

I have some try good news bur you the Olum has writed. I am seeding the receipt to the General Chemical 6 or you disarted

They received the former perset from The Pout .and have the tree and are suclosing
it. - aldernie the her for Triction Premiers
from the Fenge Anten.
So for the Cordean brown Ensign - Birthord her
not arrived. These forward that here as soon

Urth Kud segards.

Succely yours.

USS Sachen, Amapolai. -Monday January 7

Euclosus - Brie DuPont

Jeo Outre

Visto for Harry a with reference to

No. 421-2

### United States Navy Yard, NEW YORK, N. Y.

Er. Thomas A. Edison,

Edison Isboratory,

IJAN 7 1918

orange, R. J.

5 1 r :-

in the detection of the presence of hydrogen responsely substitute the detection of the presence of hydrogen responsely substitute has been received and tested at this Ewy Yard for general subtability for the requirements of the News Substitute Service.

The detector submitted it considered good in principle and focurries and could probably be as de machanically strong enough for service. However, this instrument is not all that can be desired for use abourd submarines.

The type of instrument required is one that is a constant indicator, operating automatically, and constantly indicating one diel, so that the error on determine interfuly, and estil those, the error percentize of hydrogen get present in the boat.

In connection with this indicator, it is also considered contact can be made in an already and contact can be made in an already and contact the be made in an already always well below the maximum point desired, always well below the maximum point of the emplosive mixture, so that then the percenture of yet results any 3, the slarm will wing, thus marning the orac fact danger exists.

In connection with this indicating appressus, it has been found desirable to have a standard, non-successful enter, for the checking of the indicator at intervels. For this purpose the Furcau of lines standard Furrell tube is et present used.

A very satisfactory indicating instrument of the constant automatic indicating type has been designed by the Eureau of Standards, and has been approved for use on automatines.

The instrument submitted by you will therefore only one considered as a checking stendard, and as present dast ned, ensures the same purpose as the lureau of lines Jurvell tubs, which is simple of operation, and securate enough for practical checking purposes.

In view of the ctove parts, it is considered that the type instrument submitted is not that is required as a grade-tection equipment for submarine use.

Respectfully,

Reer-Admirel, U.S.I.A. Industrial Lengter.

Copy to Y.R.Futchinson, Edison Islangtory, Orange, E.J.

> In Edward warners refort be warners refort whather . Meavewer )

Jan 10th 1917

Mr. Edison:

This report is the same story we were told when we first took our detector to the Navy yard and at that time ye found, after meating comparative testo, that the justiments they then had. · namely, the Sperry meters and Burrell tubes were absolutely unreliable.

Three different Sperry neters and four Burrell tubes were tried and the rending. Hotogred with all of them, won worthless.

The readings made with our instrument were all correct within 10 of 1% and most were within 3/00 of 1%.

The Bureau of Standards invetrument mentioned by admiral Burd was not completed, at the time we made sur tests and they did not know what it usuald do, it works on the priceachle of the Sperry neter and according to the drawings it is complicated.

Our instrument may not be all that could be desired but it is accurate, reliable and simple and furnishes, a dependable method for determining the percentage of hydrogen in a cubmanice Readings accurate to 100 100 can be

obtained in one minute.

C.W. I - Core

# CARNEGIE INSTITUTION OF WASHINGTON WASHINGTON,D.C.

OFFICE OF THE PRESIDENT

January 7, 1918.

Thomas A. Edison, Esquire, Room 502, U. S. Navy Annex, Washington, D.C.

My dear Mr. Edison: Permit me by this letter to introduce

to you Mr. Daniel M. Wise, one of the engineers of our Department of Terrestrial Magnetiam, who has been assigned to assist you in the computing you contemplate. He is a man of unquestioned loyalty to the U. S. Government and I think he will be able to give you the assistance desired. In case some special additional work to that contemplated arises, he will probably be able to draw on his colleagues in the Department of Terrestrial Magnetiam for any service or information that may be available in the Department.

I need hardly add that the services of Mr. Wise will be given gratuitously.

Faithfully yours,

Robert S. Woodword

Charleston S.C. Jany 8th 1918

DEar m Meadowcroft.

We arrived him "oth" with all the mitmal

Frontry Moring. We get the S.P. 188. 134 fort, strain converted yet. (Report 2004) We Start for navy yard Key West Horida Thursday 104 will be in

Key went about sunday, I may go by rail to reake amounts for the board when it gits them.

Please order the following for us.

location Electron to New north High alluder Mr loold

2= hora, Otom hand telephones would 200 dhus, 4= " " obout 80".

adones us

Hauly, Bumes, Moon and Myself go Hovy yard Iles lord

Iley lorit Horada From Laboratory

5. Sals solution for orphunding the liquid spilled from Better,

Tion Electral World. Mig. 1= long of book in amplifier or livelions 1= Ket it when i ask mm Gold of Dr Sewits office Western Eluction

John Millo - Radio Comunications

From Weston Electrical Just 60 newade 4.4,

We have or smable to get any defenate from them should the Wester love and them for onpair, and Must have one at once This instrument was parchased from them by us about ful, 17 and much have a record of it then in the office. We her it on one leter it atom in amp 1.5= 3, = 30. Ofth 3=15= 150. late model. 4- perer of best magnet that about 1/4 x 3/4 8" long till three

this steel is for spread magnet wish and will wish them up.

no goodwan Dillogon

JOSEPH MEREDITH ROSENCRANTZ

#### THE FRANCIS-ROSENCRANTZ MULTISHOT GUN MAGAZINE IDO PER CENT. INCREASE CARTRIDGE CAPACITY

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	washington	n, D. C.	5	deti	ca Kunny
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	immediate atte				

you with a ratter that I believe will surely interest you. Through the courteers suggestion of

Through the contracts suggestion of Mr. J. Pierpont Norgan that I advise official "sasington of an improvement of vast importance to the modern scall Trears, I beg to substit to your scalus consideration a gun werstine that doubles the rartridge capacity of a gun werstand out in the world today without charring the operation of the same of stock gun using this magazine that will fire double the gun's usual capacity with the same caliber bullet.

Now, Mr. Edison, I trust it will be your pleasure to grant me an immediate authorization to present this matter to the proper authorities.

Assuring you of my deep appreciation for your kind attention given this letter.

> I am, Sir, Yours most respectfully this divid the after who

"BIBOUTPER" NEWYORK



## BISHOP GUTTA-PERCHA CO.

INSULATED WIRE AND GUTTA-PERCHA GOODS

420 to 430 East 25™ STREET

New York, Jamary 8th 1918.

Hr. S. C. Shaffner, c/o Themas A. Edison Laboratory, Orange, H. J.

My Dear Mr. Shaffnor:-

and am pleased to advice that the think, received and am pleased to advice that we would be able to severe up a could be able to severe up a could be able to severe the authorized to the center and surrounded with wires apparented an much a way as to give throe or four separate conductors on the could be the same clauseth as each inscalled so as to give the four currents of the same clauseth as each inscalled so as to give the four currents on this could be suitly carry three or four currents on this cable.

When we made up the first lot of cables for you, we made three cables, two of which we shipped with the bake ruther on the outside, the other cable we have bridded with a hear finish fine cotton, and are heaving mane covered with the catter of the catter

Hoping for an early reply, I bog to remain,

Yours vory truly,

BISHOP GUTTA PERCHA COMPANY.

Vice Prosident.

HDR G

With THE COLORS"

Charles lay 8 4 19.18

Dear Mr. Echien

We Espect to Para Reservation for Many Gard Ken, hart.

The 50 198 Repose 11, Work sendergoing organis betwee laward. The
announced to Para Admini Brain
and Commelous By on their gover
would the boot. They gover orders that
get the boot on the reposes, and
get the boot completed, and to all and
let us here any and all assistance.

The great Esterm and personal
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come and Tay at his town with

WITH THE COLORS"

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Place the Standard apprecia

Alithoffing

1918

Toval Consulting Bd.

W.M.FULTON, PRESIDENT BROWN PROSSES VICE-PRESI JNO.S. BROWN, THE HOUSE W.P.TOMS, SECY. & GEN NOR

# The Fulion Company

KNOXVILLE, TENN., U.S.A. January 9th 1918.

S.G. Warner Bollow who

Mr. John P. Constable, Chief Engineer, Thomas A. Edison Laboratory, Orange, N. J.

Dear Sir:-

Acknowledging yours of the 5th, and for the attention of it Punderse, beg to advise that it lynderse, beg to advise that it lynderse is now in New-York attending Automobile Show. However we note what you say in regent to senaing you (4) 2½ x .002" Sylphons like samele you now have, and wish to advise that we have placed this with our Order Department and with instructions to let these go forward immediately. Assuring you that the above will have our usual prompt attention. Thanking you, We are

Yours very tray

Sales Department

WDE/LP

Note that in soldning there gust care sums to weed to remove all haces of soldning remove all motaly or toil offer solding other solding them shall all east them It

co bilano

GENERAL ELECTRIC COMPANY

Weadscraft-

Write whitney task hunte crue to me lord whitney task hunte crue of the trucking he comes the confirm fruit of making to the continued on the making making to over the following making to the following making to over the following making the making making making the making m

I am sending you a letter by the 3rd inst.
which I had sent to Mr. Janders, tainking that he and Mr. Hewitt might be willing to indorse it and bring it to you last Saturday. I was unable to be in Washington that day. Apparently this letter reached Mr. Saunders too late for him to make use or it, but he suggests that I send it to you as a personal letter, which I hereby do.

Yours very truly,

WRW:B

your ketter of January runts received. It is quite Consone abourd, but There managed to Keep brusy, and wise even by meress, now that it is bruz urrangad for me to work in the Chancel Submatany until WE get Mas in Mashington. Tronday night and Wasnesday with Mr. Edwon, had a conference with Odurine Earle and he is stripping wer von hunself to have yours aumunition atc. really for us at Key West. Me une stice "up in the air" us to when WE wise got out of theire . I learned in Woohungton yesterday that a cruiser had from sent up the Chesapeake to brack out the grain shipment from Bushmara

I find today that the is a ground above dunapolis - Moras by to Keep you informed of the property. Inflic on the Potomac, Irenderstand was resumed Un Edison uphears to take our bediencest bleisely, and I think, rather expects that we write by held here a with an to mars. Thope we can got way before, though! There recovere the sim brush, Un Sphiffwar's Country recents and austher package bur him by bancel post. HE orked me to how them about for him The Cardeau brown Enage-Bickfondlo hos arrived, and Dam suchering their O.K's bies Thours who received an express box for run Shelfren, use a box - 3

Mose that I . OH has gone with his resourcebut took chest, we find that we need were then some before, - a faw of the wave common tools. So fan on the trip we have used tools beloning to individuals, it wow by much botten to have a runce set of tools for this use of somyone, Ithink you will ugree. Have is a suggestion Sist. Ohe Chisel (wood) 2. Scrus krives (one small one medius) Our Hack Azw. - ( Wy have bladed Oho pair madium gos pliens. 2 ceria cutters, suase + madein The claw ham

They could be shipled along with any
Italyment you might be sending down.

To key blook.

My gestermine came und That

Mhe Taken vigorit. Think I had

Jone over with you to would

four of Stabing the under of our would

but with thurmers high. Think Treate at

Jones the Despected that they

would send to Ruk to the Salendary

as I shad them to do in a little

bit heard we thing from I I have

bit heard up to the successory

That fire that you was all to

yet the respectatory was all to

yet the respectatory.

I think theory Council about avaing there
with bust regards.
Alwaracy yours.
Buca Philon
M.S.S. Sadien, SP, 192
Quespolis, Maryland
Timary 10th 1917.
-0-
The state of the s
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1
• ,
· · · · · · · · · · · · · · · · · · ·

UNITED STATES SHIPPING BOARD January 12, 1918 Mavy Annex, Nevy Department, Washington, D. C.

My dear Mr. Maison:

In reply to your memorandum of January 2, submitt particulars of a multiple drill press, invented by Mr. Auron Hill, I wish to thank you for calling this matter to my atiention.

It appears that this press should be very usoful to ship fabrication, and the Corporation has written to the three large fairicating yards, giving them the information, end suggesting that they go into the matter further with Mr. Hill.

It does not appear practicable for the Float Corporation to undertake the manufacture of this drill press, as it is a matter that can better be handled by the shippards

Cherry Jose 1 touther

January 14,1916.

Hr. B. R. Silver, U.S.S.Sachon, S.P.192, Annapolis, Rd.

Dear Mr. Silver:

I intended to reply to your letter of the loth instant last Saturday, but seamont or other did not get to it. However, I will reply now, and in the first place, tant to thank you for your budget of news.

I am soing to commont on your lotter in the order in which you write. I am glad to loars that admir: 1 Earlo ic huntling to have guns, ammunition, etc. roady for you at Noy Lect. Evidently there has been semething stirred.

I am sorry you are still tied up in the ice, as I am sure you must be impationt to get don to warmer climate where you can get into active experiments once more. It is to be hoped that you will soon be able to pull out.

Your remarks in regard to addressing telegrams care of the Bureau of Marketten, are duly noted. It seems a little feeligh, but then it is a great deal better to be on the eafs cide, and just as well not to lot the Dutchmon know the movements of our beats.

lior in row rd to the for tools that you cant, I have been thinking the matter over, and it seems to not be bore common source to lot you run up to Maltimore and buy the list of tools that you specified in your letter. I prosume you will have concept seem to pay for them, and you can cond in to lit. I have concept seem to pay for them, and you can cond in to lit. I him I took you to do it. If re buy thou where not maded then down, we may not get just exactly what you want. So please for changed and buy though yourcolf.

I am glad to loarn that your Questionnaire has been taken core of, and here that it will turn out all right. I hope you have received the sulphuric anhydride, and also the case of slue Amberel records which was shipped to you last Friday.

romain, Yours very truly;

January 14, 1918.

Mr. Thomas E. Edison, Room 502, Navy Annex, Washington, D.C.

My dear Mr. Edison :

After looking this whole situation over with Commandant Traut, and at his suggestion, I write to following facts:

on the edge of the otty, is a "beauty spot" with palms, flowers, walks and well kept buildings. On the otty side of the Yard is a high iron fonce with two gates, well garands by Marines. No one is allowed inside but Government people, leaving the whole Yard free to move in. In privacy.

On the other side of the Yard are fine wharves with doep water all private and within the Yard gates.

They have a fine modified now with lathes, there, planers drille, grinders, small tools and apparently ten or fifteen good machinists. A good foundry with several molders. A wood working shop with tools, machines and stook of material would ae rods, tubes, sheets of various sizes and thicknesses. In fact it looks life they have everything anyone could set for in the metal and wool lines.

Commandant Eraut lives in a beautiful home within this oxclusive onclosure, an ideal family and home.

forts we have stranged with the Lighthouse Dep't (in the center of the dooks and yard) a slip to put our bost, and the use of a part of their warehouse to store our unused or surplus material.

They have a good fort and grounds practioslly on the grounds which can be used for any purpose you may want. the use of the Lighthouse tender's good part of each month if you needed it, or some of the multer ones. Several of the larger government ships are in here (I don't think it prudent to describe in writing)

What I had in mind was that if the Sachem is still tied up and you want to ship the material from it down here and come on down, I am ours you work the your work here at once with the beat and other facilities here. The weather, lend and water conditions are ideal here.

The Reposo II wired they had to stop Saturday at Brunswick, Ga. on account of a sovere storm. Expect them tonight or tomorrow.

Commandant Traut asked the diameter and other dimensions of the brotherhood torpedoes you expect to ship here, so he can see if he has a best with the proper size tube.

Very respectfully,

FELIX WILCKES, PRES.

LUTHER MARTIN, VIGE PREST

FERD, WILCHES, THEAS.



# MAKERS OF FINE LAMP BLACKS IN THE WORLD WILCKES MARTIN WILCKES Co.

MAKERS OF THE FAMOUS

Lapunesmaches.

## BEST WHILE HADE STREETERS

CABLE ADDRESS: BEARPHOS 4TH & STH EDITION, A D C & LIE

CARBON GAS BLACK GRINDING PLANT IVORY, BONE & DROP BLACKS MINERAL BLACK AND MORTAR COLORS NEW YORK. Jan. 14th, 1918.

Thomas A. Edison, Orange, N. J.

Attention Mr. L. F. Ott. Gentlemen:-

Your valued inquiry of the 12th received, and as per your request we are enclosing you three samples of the dennest blacks we have, viz. our """ Cerbon Black; Eo. 35 Four Flack and No. 6 Lamp Black. You will also no. 50 lyong minor and no. 5 Lamp Backs. For will case note these are three distinct blacks obtaining from different bases, viz. """ Certon Elrek from natural gas; No. 36 lyong Black from Bone and Lamp Black from oils.

Trusting you will find one of these suited for your purpose, we remain,

Tillogis White Tilly, VICE PRES.

LM.F

Retained a copy of this Celler I at



# WILLIAM LOVATT

The Lovatt Piston Packing Rings

How In the latin Broad St., GREENPORT, L.I., N.Y., Jan 14 - 19/8

dear die sucher gove was in greenfoort of gene the book ornaker that was in the food as forman as that was in the food as forman as letter for a suffernment letter that i got form washington as had larne from pure board of mustagation on hagards to ony sorter I when we have the formation to the formation of the formation to the formation to the formation that is have been the formation of the formation to the formation of the f

P.D. i worked 200 Drand Is. for you under mr Dean Greenfest, I. J. II. " & Mil dougall

"Cublo Situras" "Edison New York"

Trom the Luboratory Thomas A. Edison, Orange, Nj. 3an. 15,1918.

Mr. S. C. Shaffner, U. S. S. Reposo LL - S. P. 198, Mavy Yard, Key West, Fla.

My dear Mr. Shaffner:

Just a line to let you know that your various requirements are receiving attention. Up to date, your unfilled orders are as follows:

- 1 Spool Mo. 36 S.S.Covered Cable Wire;
  1 " " 37 " " " " " "
- 5 Gal. Solution for replenishing Storage Batteries;
- l Book on Amplifyers or Audions; l Book " Electro-magnets;
- 2 Hand telephones 200 Ohms;
- 4 Pieces of best magnet steel, 1/4" by 3/4" by 8 inches long.

They did not have any 3/4" width, and the only thing I could get was 1/1/4" instead of 3/4" messurement. You will simply have to have it cut to size with a metal saw, which they will probably have in the Machine Shop in the Havy Yard.

All these orders are receiving attention, and we shall begin to make shipments in a few days. We could not get them immediately.

I trust the Voltammeter reached you in good order, and also that the Boat made a good trip down to Key West.

With kind regards to you and the boys, 1 remain,

P. I am sending down by Canad Yours Bincerely. Cost Hopkins informental Science. Withdleadoweroff

January 15, 1918.

Er. B. R. Silver, J. S. S. Sachom, S. P. 192, Annapolic, Ed.

My door Ar. bilver:

calling for 100 pounds of folions for the approach introction of the content of the content indivodity, innorthment Station, inshington, D. C. I sent this down to it: Littoriment Station, inshington, D. C. I sent this down to it: Littoriment to see that he canade no to do with it, and he caps to lot them have it. I did thin: If tolopraphing you, but probably you have the the content of the caps to lot the proceeding the content of the co

I think you had better get in telephone communication with irr claim or any one you know at the accrience indivoreity important Station, and tell then they can have the Cloum. I do not know her you are point to ship it, as the Express Commentée regulations are no stringent that they will not take it. I think that you had better put it up to the american University knowledge the possential in most tation to cond and get it, so that we do not take any responsibility.

If you has used a thing to a small from drum that till hold a LDD pounds or nore; you could not it in that, and they could cond an automobile actor it. If not, I suppose they will have to come several mon with stone ender jugs. These are only random surrestions, but you will see my idea in to got away from recommendability.

I think you will have to urge upon them immediate attention, as you may be going away soon.

with kind regards to you. I remain.

Yours very truly.

assistant to Mr. Edison.

Enclocurec.

W.W. I -Experimental Work

January 15,1918.

Mr. Edison:

Regarding the Lemp Black requested by Mr. Silver, I have six lamps going, and will start more. Can send half-pound today.

personally went to several concerns and they promised me one-pound samples of the deadest blacks which they have. Blumpy & Smith promised one-pound samples for londay, and as soon as they are recolved, I will? Toward samples for Bonday, and Boat. Herowith I am condition you see small samples received from \$1.26 keeps to the sample received from \$1.26 keeps to \$1.2

L. OTT.

#### U. S. S. SACHEM

Annapolis, Md. January 15, 1918

Mr. S.J. Shaffner Key West, Florida.

My dear Mr. Shaffner:

Yours of January 10th received and glad to know you have found a good boat but imagine you will be rather cramped for room comparing the Repose to the Sachem.

and settled down to business. Am sorry to say that we are still frozen in solid with seven to eight inches of ice and has, at the time of writing, every indication of another northeast gale. We've had, two warm days but the loss of the control of

progressing and I will keep you posted from this end should anything turn up. Best regards to all of the Edison party, I remain

Truly yours

\_). n. Patton

Bruce a. Silver, S. P. 192

Bureau of Mavigation Washington, D. C.

Sust received urgent letter from

H. H. Beebe, Experiment Station,

Washington American University, Trashington about oleum. I have

wired him to see you. Do werything.

you can for them. I wrote yo - yesterday - they you might try

him on telephone. W. H. mearoworff .

Telegram.

Jany 16,1918

H. H. Beebe

Bureau of Mines Experiment Station

American University.

Washington , D. G. your letter warman just

received. Oleum is on board vessel

S. P. 192 at Annapolis. Sta She will

leave as quickly as she can get out of ice . Express Company will not earry

aleum. Aspak the suggest you go to

Vessel simmedialely and see Mr. Silver who has been authorized to supply

Postar 1/16/13 Poten Cotton Edwar Laboratory.

. January 18, 1918.

`ir. William Lovatt,

Groomport, N. Y.

Do r Sir:

Roplying to your inquiry we beg to may that Mr. Malcon is every from home and we do not know when he will return.

to have no idea whether or not he received the letter about your nubmarine Destroyer, but if he did he would probably refer it to ir. Thomas Robins, the Secretary of the Mayal Consulting Board. The address of ir. Robins is 13 Park Row, Now York City.

Yours truly, Edison Laboratory. Elwood Ivine Tubo Lorks,

Ouk Lano Station,

Philadolphia, Pa.

# My door lir. Ivins:

Do you suppose you can send tieh in a little tork in connection with semothing ir. Adison is doing for the Government? It is not in quite such a murry so the last job you so kindly did for him. This time he would be satisfied if you could sake delivery in four scoke.

That is winted is the following:

Incide		Outeido	Hetoriel		quanity		
Diametor		Diamotor	IR COLICE	-			
21/3: " %	X	13/3E"	Sounlocs Bruss Tubing		15	1b	
1/4"	XX	3/8"	Sdowloos Brees Tubing	٠	20	."	
1"	х	1 1/16"	Spamloss Coppor Tubing		40	" ~	
13/16"	х	7/8"	Soundone Coppor Tubing	•	16	11	

If you can do this plouse so right shead, and I will send formul Furchase Order on hearing from you.

Hr. Edison is ctill hard at work, day and night, for Uncle Sambith Aindost regards, I remain

Yours sincerely,

ABssistant to Br. Edison.

Form 1-6

### COUNCIL OF NATIONAL DEFENSE

WASHINGTON

The Storage Committee War Industries Board 5216 New Interior Blug., January 18, 1918

Mr. Thomas A. Eulson, Hotel Powhatan, Vashington, D. C.

Ly dear Er. Edison:

on the War Council of the War Dopartens, buy, who six not from the other side, and brought to this meanthy returned from the other side, and brought to the list, from the Sritish Hintery of Shipping the later than the list of firsh plainting for saccepting or the state of the Hintery of Shipping the visited the Olydo, and sow this work in all distinct of the Hintery of Shipping the various the representation of the Hintery of Shipping the various the properties of the Hintery of Shipping the various the moderate of the Hintery of Shipping the various the moderate of the Hintery of Shipping the various the moderate of the Hintery of Shipping the southern of the Hintery of Shipping the state of the Hintery of the Shipping Lincid on the Shipping Linci

Ir. Day usually stays at the Powhatan, and will be very glad to show you these exhibits if they are of any interest to you.

Yours very sincerely,

m. L. Cooke

uLC/S

Chairman of the Storage Committee

- Malan

January 21,1918.

Dr. W. R. Whitney, kessarch Laboratory, General Electric Company, Mehonoctagy H.Y.

Dour Dr. Lhitney:

The Edison, a momerandum in relation to your letter to his of the 9th instent, concerning the Astronact you had sent to ir. Saunders, about the hypermontal and however laborators, about the hypermontal

ir. Edison requests se to write to you and ass if you will kindly coll in and see him the next time you se doen to a facting in bushington, and be will so ever the faboratory matter with you.

let me my new you do not know where to find him, in flow cur he is in goom 5%. Of the Hery annex sulfatur, How Cork avenue and 18th Stroot. He is telepring at the Hot Hot lotel Poshatam, but uponde all der and evening down at the Hery Annex.

Yours very truly,

Assistant to Er. Edison.

A/4475

Washington A.C. Jan. 21, 1915.

My draw Mr. Shaffour,

Inclose please fine a letter which Mr. I dim

directed me to come you. I also riches a copy of the amount he much to the letter. I must be letter much them had it beforewhen to ame to strong the first work thought you would think me it. It is only the first work shift you can duting it then you town much it. It received you could tring afout the Reference much to they afout the Reference and being after away triang. Coften Bottom and there were have trigget much have your much to Bottom much being at you are that the seather.

Assumption. They hope to get away arm, but the seather after the forther bother than the you the first and they are the forther work they are the seath day.

We are all sell once they to you you for the there are

we all sur "
To the best symbol som sommely your,

Simuly your, Charles B. Wangson.

## [ATTACHMENT/ENCLOSURE]

W

W. Strother Smith,

Jui-12, 1,11

open sigg the Mary wishington, D. C.

My dear M. Smith: It is uply to you letter of brey in regard name of my assistant more at they thank I would see from the Mr. D. C. Sheeffour to in charge of my experiment for formule. He is the ray me who has the instant to experiment me.

It has would men much his direction, but in M. I happen above sets the exprisibility for my interest there.

HAL OFFICER OF THE ARMY.

Washington, D. C.

.....RADIO DIVISION

WAR DEPARTMENT OFFICE OF THE CHIEF SIGNAL OFFICER WASHINGTON January 21, 1918.

From:

Office of the Chief Signal Officer.

CONFIDENTIAC

To:

Lir. Thomas A. Edison, Havy Annex, War Dopartment, Washington, D.C.

Subject: Special Redio Transmitting Station.

Referring to your recent conversation with Captain Shoppard, 1. Radio Division, regarding the possibility of producing sufficient interference to provent submarines in the English Channel from communicating with their bases in Belgium and in Germany, without at the same time prohibiting the operation of Radio stations on the French front nor communication between friendly ships. This problem has been given caroful consideration and it is believed that certain methode and equipment of the Signal Corps may be modified and adapted in such a manner as to provide a solution.

If it is found to be desirable an officer can be detailed to give this question his undivided attention.

3. The nature of the problem is such that the co-operation of the Mavy will be necessary in carrying out practical tests.

By direction of the Chief Signal Officer of the Army.

Den Ken Court Now how Mr. Edison: you asked me to have made. 2 the of our lampblack, and also get 5 th Communical -I now have 1 to of rus ready to send. Where stall I said it? To the boat at Key West you would it in Washington? The Southern was stice ice bound last Friday, but they expedded to get ther out by the beginning of this week. measowarf

Jan 22/18

### [ATTACHMENT/ENCLOSURE]

2

75 h af floor plate sorate.
Then is man used for meaching.
Novel + Melts very some.
Richards Begilden Doger
N. J. Stook adorks Comhelp you centtell Rub that you count it van
low 1684 to for good Expl.

## [ATTACHMENT/ENCLOSURE]

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#### [ATTACHMENT/ENCLOSURE]

4

Ohance heave a surgey of to it face hope the 5 loss of he have severthe Extre Dell shows.

When Hell shows. No this is nothing but Regular chall made blissed in a cale kends of done of in a town to hit or tanger which is to hit or tanger weeking to hit or tanger weeking to hit or tanger weeking to first will grant well by English in 1966

## Diving Shell, Perfected by U. S., Deadly "Sub" Weapon

WARLINGTON. Jun. 20.—The lefux warpon like in the fact that share it would reclude the time recognition of the controlled to the time recognition of the controlled to the con

som automative.

som automative.

the surface of the water, instead of a submarine, bedienstry, we found to entrace of the water, instead of a submarine, bedien saved to found to explore the surface and the most to explore the tree of a new finer, the distinct of the submarine that the contract with a reliable surface water than the contract with a reliable surface under the contract with a reliable surface under the contract with a reliable surface to the publication of details of the contract with a reliable surface under the contract with a reliable surface under the contract water than the contract with a reliable surface under the contract water than the contract w

Newart Star Engle - Jan 22, 1918

#### DIVING SHELL FOR USE AGAINST SUBMARINES

Doesn't Bounce When It Strikes
Water but Cuts Under—Explodes
on Contact With U Boat,
WASHUNGTON, Jan. 22.—The "Non-Receive" Stell, it weapon as deadly athe Jeth Charge, is the newest device
perfected by the Navy Ordname experts for me against German animents for me against German ani-

mariner.

The new shell dives when it strikes
the surface of the water instead of
suncein as do the ordinary missiles
used in either naval or coast defense
arithmer, to addition, through the nav
of a new face, the change can be must
to explode on contact with a solid surface under the water or at a new deterface under the water or at a new deter-

united deeds.

The value of the latest anil-volumarine weapon lies in the free that
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solutio

Ger it is taking Parker John's Medicine, A strength-builder,—Advi.

1. 4. Evening World San 22, 1918

Mir Edison

I looks as if our

Thiend Admiral Earle had been

Jelling busy on your under water projectale.

Meadoward

Jonuary LE, 1918.

Hon. Heaton D. Bekor, Secretary of War, washington, D. C.

Dour sir:-

at hr. Edison's request, I am conding to you our Laboratory bill for experimental work performed for the Lar Department over the period from August 1,1917 to December 5,1917, at co.t. accuring to 35,096.65.

This bill is in the same form as is usually rondored to the Sourchary of the Mary. Formerly I und to Land those bills direct to Sourchary Daniels. but later on he achieve so to could then to his accietant, locar-admits L. Strether Could.

Shall I continue to send those bills to you, or would you prefer to have mo send then to some person in your Department, whom you would wish to designate?

Yours respectfully.

Assistant to Er. Edison.

A/4497.

Enclosures.

January 11,1918.

Hoar-denial b. Strother Smith, U.S.B., Havy Department, Lashington, D.C.

My dear Admiral:

This is the first time I have hed
the pleasure of addressing on by gour now title.
It was my intention to extend my sincers compratulations upon your prosotion, but I have been enfully
bury, and comphos the matter slipped my mind. Horover, I want to congretulate pon now.

Herowith I hand you the Laborator statement of experimental tork covering the genied from Hovember 1,1917 to December 1,1917, at cost, amounting to J11,310.61. Your neutal kind attention will be appreciated.

Yours very truly,

Assistant to Pr. Edison.

A/4496.

inclocures.

por the Attention of Mr. Meadowcroft, please, Keener Line
Oak Lane Station. OAK LANE STATION, PHILA. January 22nd 1918

#### YOUR ORDER #129470 TOPIC:

We are pleased to enter this order for the following Seamless Tubing.

- 15 1bs. Seamless Brass tubing 23/32" 0.D. x 21/32" I.D. x 1/32" Walls at twenty-seven (27) cents per foot net.
- 30 lbs. Seamless Brass tubing 3/8" 0.D., plus or minus .002", x 1/4" I.D., plus or minus .002", x .062" Walls at twenty-four (24) cents per foot net.
- 40 lbs. Seamless Copper tubing 1-1/16" 0.D. x 1" I.D. x .031" Walls at thirty-five (35) cents per foot net.
- 15 lbs. Seamless Copper tubing 7/8" 0.D. x 13/16" I.D. x .031" Walls at thirty-one (31) cents per foot net.
- These prices are for random mill lengths, f.o.b. our works and with boxing at cost. Terms, 1% ten days, net thirty days from date of invoice.
- We will do our utmost to have this tubing completed and ready for shipment within four weeks as you request. Shipment will be forwarded by Express, to Newark, N. J. and case will be marked for Mr. Meadowcroft.

Will you please advise us immediately whether you wish this tubing finished etiff and right, or anti-and pliable. This information will greatly assist us in sending tubing that will fully meet your requirements.

Your order is entered with the above underst not correct, advise by return mail.

We thank you.

Very truly yours,

Mgr. Order Dept. per & ELLWOOD IVINS' TUBE WORKS.

Sten. #9.

HK. EC.

Diagram showing the use of smoke screen to prevent spotting of splash.

TAE. 100.22.1418.

Nº 47,

of will be to perfect the perfect the perfect to be to a perfect to the perfect the perfec Mr. Edison:

I have received copies of your Reports numbers 46,47,48,49,50 and 51, which have been filed along with the others.

I see by your letters to Sir Eric Geddes, that you have covered these in communicating with him.

But you have suggested one more plan to Sir Eric, which you have not covered by a report to Secretary Daniels. It is the idea about the red lights carried Dentation. It is the first about one real lights carried by Merchant ships. Do you not think it would be well to cover this in a separate report to Secretary Daniels?. If so, you could have it put in the form of a letter to Secretary Daniels, and call it No. 52.

In order that you may do this, I will attach herto a copy of what you have said in your letter to Sir Eric Geddes.

Perhaps you are not aware of it, but our practice in sending reports to Secretary Daniels was to send a carbon copy to his personal Secretary Daniels was to send a carbon copy to Rear-Admirel (formerly Captain) Smith. If this has not been done in regard to Hos. 46 to Si, inclusive, shall I send the copies from here?

A/4498.

### [ATTACHMENT/ENCLOSURE]

(Plan 7):

ships are dangerous. One captain reports having seen 28 ships are dangerous. One captain reports having seen 28 ships at night in a convoy of 34. I have tried a light at Annapolis which is very successful whereby all the ships can have lights 50 feet above water, which all ships can see but are invisible from submarine The light consists of an area of the content of a large number of flat dises covered with lamp black. These parallel the ray and it can only be seen from crow's next. I am making a practical one with semall gyrousops to obvite effects of rains and also wind guards. If you desire I will send working drawings offer to what I have been a country to the light of the country of

## THE SECRETARY OF THE NAVY. WASHINGTON.

January 23, 1918.

My doar Mr. Edison:-

I am enclosing you a memorandum with

reference to the hydrogen detector.

Sincerely yours,

Jonepau Bairel

Mr. Thomas A. Edison, o/o Hotel Powhatan, Washington, D. C.

Enclosure.

#### [ATTACHMENT/ENCLOSURE]

N. C. R. 90.

#### NAVY DEPARTMENT,

BUREAU OF CONSTRUCTION AND REPAIR,

Refer to No. 14512-A58-S WASHINGTON, D. C.

HAN 2 31918 LEMORANDUM FOR THE SECRETARY OF THE NAVY.

Referring to conversation with you relative to a hydrogen detector, designed by Mr. Edison, you are informed that I have had this matter taken up with Mr. Edison in person with the following results:

It was decided to have Mr. Edison's representative bring one of the instrument to Washington to be inspected by the Bureau. Mr. Edison sent a telegram to the Ornage laboratories and this instrument was brught down by Mr. Warner the Bureau to the Bureau to the Standards as the Bureau had considerable work along similar lines. A letter of considerable work along similar lines. A letter of the Constant of Standards as this Eureau had considerable work along similar lines. A letter of the Constant of the Cons

The instrument is a volumetric gas analysis apparatus operated by hand and requiring direct observation. It indicates change of volume after combustion. The assumed bulb is so large in proportion to the size of the measuring tube that the instrument is extremely sensitive.

The following is quoted from the Director of Eureau of Standards' report relative to the results of this investigation:

"The apparatus is made of glass, and is fragile and somethat bulky. For these reasons, as well as bocuses it is not automatio, we do not believe it is especially suited for use in submarines. Mr. Warner concurred in our opinion that an automatic instrument (or the type now being-used its preferable."

3 -

#### [ATTACHMENT/ENCLOSURE]

Mentrerett . Warner . Warner

m. Edwon.

incorrectly. The instrument they should me did not work and years complicated. I the simplicity and reliability of our chatrament. We argued the ments of the two types and I admitted that an automatic instrument would be preferable provided it could be made as simple and reliable as ours.

Their instrument certainly doso not meet this condition and I 9 connot understand how what 9 said could be so construed.

said could be so construed.

If I had Thought that their
instrument was perferable I would
kave so reported to your in Washington
but I wouldn't have told them.

The oclones of an electric reading neter which you can't statch of so something like those they now have but the are not wise to the may remove to the may remove conting on wire. Swell try this out.

## WESTERN UNION

Form 2169

## NIGHT LETTER

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RECEIVED AT 288 MAIN ST. ORANGE, N. J.

MA WASHINGTON D C JAN 25-18

W H MEADOWCROFT

EDISON LABORATORY ORANGE NJ
ARRANGED WITH NEWYORK TESTING LABORATORY TO HAVE A MAN
WITH INSTRUMENTS FOR TESTING SKY ILUMINATION READY TO GO TO KEYWEST
UPON RECEIPT OF TELEGRAM FROM ME SAME MEASUREMENTS AS TAKEN
AT GREENPORT KNIERIM WOLFE HANFORD WAS EDISON GO LEAVE HERE
MONDAY.

EDISON

720AM JAN 26

Lenna 5513

, got millear pro

### U. S. S. "REPOSO II" S.P. 198.

Key Weet, Fla.,

January 25th 1918.

Mr. Thos. A. Edison, Room 502 Navy Annex, Washington, D. C.

My dear Mr. Edison:

I have been unable to write anything, since I last wired you, on account of moving around so much.

worked down ore, due to a very several to the boat passed through off Brunewick, Gaorgia, and one two other places, which were not of as much consequence to the places, which were not of as much consequence to the storm of Brunewick. The severe storm lakes and water came over the top, down to the shatch-ways, and not to recent to balling out with buckets, in addition to the pulmer working balling out with buckets, in addition to the

Ever since its arrival, we have been making repairs to the ship, and getting our apparatus fixed up; all of which we will have, in a day or two, in pretty good shape.

Received your note, advising to help Dr. Goolidge wherever I can. The Dr. MoLaren mentioned in Mr. Smiths! letter is the President of the Mess adult to Institute of Technology, and is working in commerciacy. The coolidge, The renting of and is working in commerciacy in the Coolidge. The renting of the house means of the commerciacy of the contingent of the control of the control

I failed to mention in my former letter to you, in telling of the resources of thick and, that they have a good three inob gun, and ammunition that the large of the second of the secon

#### page two.

on our bench, right on the dock, on the side of our boat, and could be used to good advantage.

The Commandant, Mr. Trout, told us that if we wanted to use the Lighthouse tender Tivey". (which is quite a large boat, probably 200 feet) he would be glad to lettue have and he would also let us have any of the small boats whenever we need them. He is very anxious to know when you are coming down and wanted to know if I ent the letter he wrote to you.

All of the material which you ordered has arrived, also a gasoline engine and a one and a half kilowatt generator.

Trusting that I may hear from you soon, I remain, Very respectfully, S. C. Shaffner, James Burnes, S. T. Moore, J. A. Hanley.

#### U. S. S. "REPOSO II" S. P. 198.

Key West Fla.,

January 25 1918.

Mr. W. H. Meadowcroft, Thos. A. Edison, Laboratory, Orange, N. J.

My dear Mr. Meadowcroft:

I have been maiting to reply to your letters of January 10th, 15th and 17th, until the material you had spoken of Shipping me, had arrived. This material has been coming in for the last eight or ten days, piece at a time, and am glad to say now that the following has been received:

Two volumns of Experimental Science. Three spools ocpper wire. Four pieces magnet steel. One book on Electrical Magnets. Eight boxes of material, as listed in your letter Jan. 10.

I notice in your letter that the expressage was prepaid and find that on arrival the boxes were earsed collect, and I paid \$65,50 expressage, and receipt was turned in with my weekly report, dated January 15th to Mr. Kellow. If this is not correct you can get the receipt from Mr. Kellow and have the expressage refunded. The only thing now lecking, that I can recall, which I saked you to order, ie as follows:

One book on Ampifyers and Audions. Five gallone storage batter solution. Six hand telephones.

— and the phonegraph which I wired you to send on the first Hallory boat. This Phonegraph, I needed to use with the excounting records for Jesting purpose, and at the same time, If you had some of the "seconds" cylinders, to be used on the same phone graph, it would afford quite same pleasure to our usen at odd times.

I am enclosing a copy of the packing list from Edison Storage Battery Company, and the dynamo and gasoline engine which arrive here the other day, and I know mothing about. I nave, however, written Mr. Edison about it.

one for you and one for Kr, Kellow. These cigars were septically recommended by the Manager of this hig cigar factory, the Gator Company. I have these wrapped so that they will not loose their solisture, and this Manager of the fide the cigar factory, the Gator company. In the the wrapped so that they will not loose their solisture, and this Manager high fide does not consider the construction of the co

page ttwo:

He said they must be kep in this moist condition at all times, as if they once get dry they could never be brought back to their original condition.

The weather here is very fine. They have a good Navy Yard, well kept, well managed, they have a good boat and a good orew, all well managed. We have'rt a "oldul in the sky" if a con't get some place now, it is comeny stally our fault.

The Mallory boat leares New York on certain dyseach week, which date they go not give out; while they may always a strain a correct strain and the strain an

With kind regards to everybody, I remain,

Sincercly yours,

Stephenfung

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

PETER COOPEN HEWITT.
VICE MEDICAT
WILLIAM L. SAUNDERS.
CHAMMAN.
THOMAS ROBINS.

OPPIOR OF THE SECRETARY 13 Park Row, New York

Jan. 25, 1918.

To the Members of the Naval Consulting Board, Dear Sirs:

Please be advised that the next meeting of the Board will be held at the office of the Secretary, Fifth floor, 13 Park Row, New York, Saturday, Feb. 2, 1918.

In accordance with the usual practice, the informal preliminary meeting begins at nine o'clock, and the regular meeting at ten.

Very truly yours, THOMAS ROBINS.

By CCC Cieman.

n

In future correspondence on this subject, refer to [H1601. Divn.)

WAR DEPARTMENT, THE ADJUTANT GENERAL'S OFFICE, -NAF

WASHINGTON.

wadmindion

January 25, 1918.

Mr. Thomae A. Edison, Powhatan Hotel, Wachington, D.C.

Dear Sir:

The Secretary or War desires me to inform you that the Unier or Ordanece has been directed this date to chip to you by oppress, deare Commandant, Navy Yord, Key Weet, Florida, the Kollowing massed articles:

One only Vickere Machine Gan, complete with toole and accessories for gune, and belt loading machine.

One only tripod with quick elevating and travereing device.

Four belte or 1000 cartridge capacity.

Six belte of 250 curtridge capacity.

12,000 rounde .30 caliber ammunition for above gun.

Very truly yours,

( ) intent General.

Mr. Edison:

I received your telegram and have made the arrangements you derine with the Electrical Testing Laboratory .

Shall I send your mail to Fort myers or Key West?

Measoweroff

San 26/18 Kry west-Y leave their sun-for leging De Moning

COMMERCIAL TRAFFIC U. S. NAVAL COMMUNICATION SERVICE S. R. S. No.

RADIOGRAM: STATION

on U. s. s. January 25th, 1918

, 191

Τo Thomas A. Edison.

> Room 502 Navy Annex, or Powhatan Hotel, Jashington, D. C. Just received the following telegram quote Sachem at Norfolk period. Will be used for other purposes for present if agreeable answer. signed Josephus "aniels, Secretary Havy unquote and wired him quote Telegram received regarding Sachem. Have referred it to Mr. Thomas A Edison, Powhatan Hotel or Room 502 Mayy Annex, Mashington, D. C. unquote.

> > S. C. Shaffner.

ALL FORWARDING DATA TO BE SHOWN ON THIS SIDE

COMMERCIAL TRAFFIC II. S. NAVAL COMMUNICATION SERVICE S. R. S. No.

, 191

RADIOGRAM: STATION

on U. S. S.

KY-Key West, Florida. January 37th, 1918.

To Thomas A. Edison,

Portstan Hotel, or Room 502 Mavy Amon, Mashington, D. C. If MACHEM is not coming here at once please ank Patton to express here the small lathe motor, counter shaft, gears, tools and supplies on it. Angwer.

Shr.Xxner.

CLASS OF SERVICE SYMBOL

Ony Mescage
Ony Letter Else
Might Minage Mito
Night Letter N.L.

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## WESTERN UNION ELLO VIEW PROPERTY OF THE PROPER

GEORGE W. E. ATKINS, FIRST VICE

CLASS OF SERVICE SYMBOL

Day Message
Day Leiter Site

Night Latter

It nees of these three symbols
spoots that the check inswice of

week techniques in indicated by the
symbol appooring after the check.

#### RECEIVED AT

35J DR 10

LC SASHIUSTON D.C. 2 05P Jun 27 1918

S C SHAFFNER 216

. CARE OF COM AMDART MANY YARD

KEYWEST FLA.

SACHEN WILL SOON LEAVE FOR KEYWEST WE ARE LEAVING MONDAY EDISON

.

2,07P

Callo Addies Ledison New York"

Trom the Laboratory Thomas A. Edison, Orange, NJ 5 anuary 29,1918.

Mr. S. C. Shaffner, c/o U.S.S.Reposo II,SP 198, Key West, Fla.

My dear Mr. Shaffner:

I have received your favor of the 25th inst., and am very glad, indeed, to get your report as to the receipt of some of the items which have been forwarded to you.

According to your letter, the items lacking are as follows:

l Book on Amplifyers and Audions; 5 gallons Storage Battery Solution; 6 hand telephones; Phonograph and records.

I will report on these as follows: The Book has been out of print. There will be a new edition out on Priday of this week, and your copy will be forwarded then. As to the battery solution, it was forwarded to you by Express on the 21st instant and should be there now. I have sent a tracer. As to the six hand telephones, four of them (the 200 Ohm type) had to be made up specially. The Western Electric people have been very, very busy, and I have been rushing them on it. They now promise to have them ready tomorrow morning and I am going to send a boy over for them, and shall send them down to you by Parcel Post, Special Delivery. The phonograph was sent by Hallory boat last Friday, and you may have it before this letter reaches you.

In regard to the eight boxes of material, I am told they were marked "propaid" when sent from here. However, we have not received marked propers when sens from here. However, we have not receive a bill from the Express Company, and if we do, we shall not pay it, but will show the receipt for the expressage paid by you.

I note your remarks in regard to shipping by the Mallory boat, and shall be guided accordingly. Probably the best thing for me to do would be to go over to the pier and make friends with some one of voting de to go over to the pier and make friends with some one who will see that our stuff is forwarded promply; I don't your telemous when I shall be able to getovor in time to send out your telemous in that way, so I will send them comerows morning your telemous in that way, so I will send them comerows morning your beat to special Delivery, and wish you would tell me the own it takes them to reach you. I feel a little ablowed shout sending small packages by the Mallory boat for fear they may get lost amongst so much big stuff.

it was very nice of you to send me a sample of Kay Wort products in the shape of a box of cigars. "Eney are certainly as most enjoyable sonce, and I appreciate them very manuscript you for your kindness. The Manager of the Sets of the cate with the intelling about, for the cigars are fine.

I am glad that you find things so agreeable in Key West, and suppose you are pitying us poor fellows up here in the Horth who are surrounded by succe and ice, to say nothing of coalless Kondays. I am earfully glad that some of you can be down there to enjoy the balmy weather, and I hope you will all have a good time outside of work hours.

With kind regards to you and all the boys, I remain,

Yours sincerely,

Walleadowarf S

A/4547.

O. S. I have sent down several parkages of Lamp Black for Mr. Edison - Two of the tin boxes contain lamp black made at the Laboratory, and the others are samples of commercial shift.

January 22 .1916.

Hr. Aaron Hill, Los angolds, Cal.

Doar bir :-

ir. Alian, the he been denn at lendarton for over three marks, he requested on to write to you to let you have that he had been recommending your malitain artill prote to ir. Faberd 41 kmrley, the Provident of the United States things South with the action catter steps to look into the matter the owner,

Yours vor; truly,

Assistant to Er. Edison.

4/4658

ey to san progo, Cal

DEPARTMENT OF THE NAVY. GENERAL BOARD, WASHINGTON.

January 2

r. Thomas A. Edison, c/o Commandant Eaval Station, Mey Test, Fla.

ly dear in. Edison:

I returned the four bound copies of target practice reports which you left with me and in their place have gotten paper bound copies of the same volumes as follows:

Report of Elementary Practice, 1915-16, Reg. No. 221
Report of Chort Range Battle Practice, 1916-1917, Reg. No. 652
Report of Battle Eractices, Spring, 1916, Reg. No. 648.
Report of Battle Eractices, Spring, 1917, Reg. No. 648.

I signed receipts for these books and an forwarding then to you under separate cover by registered mail. You may keep then as long as you wish and when you have finished with them please return then to mc.

I am also forwarding a copy of "Orders for Cunnery Exercises, instituently received, and independently the formular received and independently the formular received and independently the formular received and you a bound copy of this booklet along with the four larger books which you turned in. If you have this bound copy please have it returned and retain the copy I am sending you as long as you need it.

Doctor Butchison came in the office this morning to see you in connection with a patent case. A half hour later the enclosed telegran from In. A. Fardy errived. Doctor Eutchison mentioned Er. Eardy being here.

The enclosed telegram from H. J. Frowell arrived at the same time. I would have forwarded it by wire had I known how to reach you before your arrival at Key West.

Any other telegrams that may come I will re-wire to you in care of the Commandant until you give me other instructions,

Janin Butlan Hope you all had a comfortable trip bouth.

no.1.

#### [ATTACHMENT/ENCLOSURE]

## POSTAL TELEGRAM

RECEIVED AT NAVY DEPARTMENT

600 00 36

Grange PJ Jon 28 1913

Contacting Count

Thos A Edison

Ware J J Butler Havy Annex Jackington De.

Arrive "achington nine fifteen tenight will endeaver to see you tenight to arrange for conference with examiner tenorrow assuming on non-presente iron application

in A Hardy

55 **o**pm

Trick to ruck at M. 908)

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON
PRESIDENT.
PETER COOPER HENTEL
WILLIAM L. SAUNDERS.
THOMAS ROBINS.
SECRETARY.

OFFICE OF
FRANK J. SPRAGUE
CM. OF COMMITTEES ON
ELECTRICITY AND SHIPBURGHING
165 BROADWAY
NEW YORK

January 30, 1918.

Dear Edison:

unfortunate condition of affairs and save the heral Consulting Board, and for the Bearetury of the Mavy, from very production in the Bearetury of the Mavy, from very indicately as possible in the hope of your compliance with one or the other of two suggestions.

in the Act making appropriations for the Maval Service for the fiscal year ending June 30, 1817, appropriated a million dollers for the erection and operation of the Experimental and Research Laboratory's, and directed the Secretary of the Navy to report not later than that data and every year thereafter the manner of this expenditure.

of the world was at war, and the errotion of the laboratory was a particular ambition of Seorge to the was a son as had been assured of a seorge to the been assured of a seorge to the board of the board of the board of the board a determination of the best possible

But despite the fact that for nearly ten months end of which no man men the seat conflict, the end of which no man men seat seat the naval laboratory resains a tensor of the seat of the

and the decision would have been final reasons for and against that decision were set forth in detail and at considerable length. As I read mem over they seem as valid today as when made, but at any rats if the report

Page 2 -

had been promptly acted upon an effective and useful laboratory, larger than any other which could have been constructed with the same money, would now be in existence, of ample resources and capacity to have emisted the professional activities of hundreds of skilled obvilian solemities and worken.

The can reokon the possible value of such work during the past few months and at the present time, or measure the possible loss in life and property because of its lack, despite the many activities of the members of the Beard in other laboratories and workshops? With the facilities which would have been available it is beyond question that some at least of the 3,000 proposals what he majority of them are, might have been given a deserved opportunity of development instead of being consigned to an early grave with thanks because of the impossibility of providing for such.

The circumstances resulting from this inaction have seriously reacted on this Board. It has lest caste, its recommendations are largely unheeded, its activities are curtailed, its authority largely imaginative.

Whatever usefulness is apparent to largely that represented by the efforts of individuals, often working on their own responsibility and expenses, but sometimes aided by the moderate appropriations authorized out of the laboratory fund. With regard to this last, neither you nor I personally have probably any cause for complaint.

activities have been, nor to what extent you have thus far found any particular locality or facilities necessary, but my own experience has emphasized cortain vital facts as to the needs of this laboratory, and these have not been lessened by the assumption for myself and assistants of personal risks not usually sought after, and smphasized by the recent accident at the Remport Torpeco Station.

persention of issue, protection against, and detection of submarines, which have constituted, and unhappily etill constitute to an extent generally under-rated, the gravest memose of the war. I believe that for their destruction it is necessary to be able to attack them both above and below water anywhere within range of gun fire. To this end I have been actively engaged in the development of various kinds of ordnance apparatus, including depth-charge mechanisms and sub-squeeus and delay-action fuses, following that development from construction to tests.

This work has taken, or in the near future will take me to the Ordnance Bureau in Washington, the proving ground at Indian Head, the shell works at Gillespie, N. J., the Dupont works at Fompton, the naval depot at Iona Hand, the navy yard in New Pork, the waters off the coast, and the torpedo station at Newport.

machine work, the preparation and handling of wet and dry fulninates, the loading of detonators boosters, shells, fixed ammunition and bombs with high explosives, and land and water tests of the finished products.

vitally necessary things would be permitted to be done in the clot of these vitally necessary things would be permitted to be done in the clot of the vitally necessary things would be arried on continuously and with selfety in any properly equipped and suitably located experimental exation and research laboratory having the characteristics set forth now report, while, on the other hand, the machine work alone could be done in a hundred chope.

made for war and increaseingly approximates with the preparations and so reachingly approximative of the great task ahead of us, is becoming critical and justly so. It demands constructive action and will not brook refuest to use the mean it places in the hands of the servants at a time of this mational critics. It is up to be constructed at a time of this mational critics are not provided by the construction of the constr

Every member of the Board is impatient at our impotency and chafee at conditions which are fast becoming intolerable.

For the reasons est forth in our Committee report I have etrongly favored Annapolie, but in the hope of some communities, and if unhappily not that then the husdilating relinquishment of our responsibility, I am willing to join the rest of the Board in either of two courses.

First, An immediate recommendation for the erection of the laboratory on plans to meet the approval of the Department on the Bellevue Engarine Site in Reshington, which in view of the Chauged conditions wrought by the war I believe the rest of the Beard would uneximputly agree to, or

Second; Request Secretary of the Navy that the officers and members of the Board be relieved from further responsibility and the selection be left to the Bureau Chiefe, to whom all papers should be submitted.

along further. We have been made truttee for the erection of a vital navel estimates the state dependent of a vital navel estimates that the erection of a vital navel estimates that the erection of a collegations or yield our privilege, and if we do not take constructive notion, and the Scoretary resains usualling to, then it may be accepted as a certainty that Congress will inquire the whys and whereforce of the delay and take unto itself the direction of final decision.

The Board meete again this week in New York, when it will again take up this question. I hope that you will see your way, sither directly or thru some representative, to express a that the your cooperation in one or other of the proposals laxe made, and in this way, irrespective if necessary of the personal wishes of any of us, remove the etumbling block in the way of the Scortsary of the May proceeding without further delay in this vitally necessary matter.

Sincerely yours,

youre,

HEAD DAFICE: TOKIO DEPARTMENTS SHIPHUILDING & ENGIN

CABLE ADDRESS: MITSUSISHI SENTLEY'S LIESER'S WESTERN UNION A. D. C.-BTH ED. TELEPHONE, RECTOR 4835-9

MITSUBISHI GOSHI KAISHA (DOCKYANDS) NACASANI, KORE, MOJII IRON AND STEEL NEW YORK AGENCY EQUITABLE BUILDING COAL AND METAL MINING ESTATE, BANKING, ETC. 120 BROADWAY

NEW YORK January-31st-1918.

No. 495.

Mr. William H. Meadowcroft, Assistant to -Mr. Thomas Edison, orange - N. J.

Dear Sir: -

Referring to your favor we received sometime ago regarding the Hydrogen Detector, about which our Mr. K. Suyehiro asked you the end of last year, we would appreciate it if you will kindly inform us as to how the matter is progressing.

Thanking you for your trouble, we remain,

Yours very truly,

sn/ns

Naval Consulting Board and Related Wartime Research Papers Correspondence February 1918

Pobruary 5,1918.

Mitsubishi Goshi Kaisha, 120 Brondway, New York, N.Y.

#### Attontion Mr. S. Haranuma:

Doar Fir:-

morphying to your favor of the 31st ultime, received this marning, I beg to any that there has been a little unexpected delay in finiting the Hydronon Detector, but it is almost roudy, and we expect to deliverent to you about bedeneday of next work.

Possibly, our in turnor will bring it into got York hissoit and explain it to you.

.oprotting the unevidable colay, I remain,
Youre yory wrily,

Assistant to Mr. Edison.

.../4588.

DEPARTMENT OF THE NAVY. GENERAL BOARD, WASHINGTON.

Fo.2.

OEJ.

February 2, 1918.

Dy dear Mr. Edison:

you through the mails. I also enclose a letter which have come for you through the mails. I also enclose a letter from a damiral was. Strother Smith relative to a local civil engineer who wanted to see you. I called up the sam with a view to seeing him and get a memorandum of what he wanted to say, to send to propose must or which the wanted to say, to send to propose must only a rethered, as identically such that the country will exhered, as identical Smith evidentially did, that the country will manage to get along without him ideas for a while at least.

there have been some interesting hearings here recently bearing upon some of the problems you have under investing tion including lador R. A. Isilitien, pr. inditing and Ir. C. S. Dwelth, whom I believe you talked with, and several others. If you so desire, I can have copies made to send you or at least enterests of their hearings which I think would be particularly interesting to you.

On eccount of the increased work in our office and the possibility of a sun being useful in racing unde neglect and other work for you, I have been succeeded a larved an additional stenographer so that your time to depriving anyone class of the service of the possibility of the service of the service of the your time that you may have any work that he can be now this you may in Florida or after you return. Hease do not hemittet to have me look up any references or collect any date you may desire.

Two days after you left here we had a much bigger mace storm than that on the day of your departure and you were indeed fortunet to escape it. With the two storms there was a flat eleven inches of snow and practicelly the only street traffic was on the car tracks.

With kindest regards,

Jan Butler

Er. Thomas A. Edison, o/o Commandant Haval Station, Key West, Florida.

# WESTERN UNION NIGHT EETTER

3NY H 22 NL

238 MAIN ST. J. RECEIVED AT

KEY WEST FLO FEB 3-18

W H MEADOWCROFT

CARE EDISON LABORATORIES ORANGE NJ HANLEY HAS BEEN SENT HOME WITH SERIOUS EYE TROUBLE GET HIS BRASS NAVYYARD PASS AND SEND IT HERE BY MAIL AT ONCE.

8 C SCHAFFNER

709AM FEB 4

maile 47/18

TEEY 5 1918

Mendocaeft.

Tell Warner when he & theod one comes down to bring a High regar Detector with him & by outs the bracked so on next to brock it for four it hereby bring it in Car cales batter bring some of an extension points to renew bracken class I becarde putting one in class to subsume in met to test for fly magain but to see if pur of least bracks it out to see if pur of least bracks it

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PRESIDENT.
PETER COOPER HEWITT.
VICE ALEBOUNT
WILLIAM L. SAUNDERS.
CYALINAM.
THOMAS ROBINS.

OPPIOR OF THE SECRETARY 13 PARK ROW, NEW YORK

FFR 6 1918

To the Members of the Naval Consulting Board, Dear Sirs:

Please be advised that the next meeting of the Naval Consulting Board will be held on FEB 16 1918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clock and the formal meeting at ten.

Very truly yours,
THOMAS ROBINS
Secretary.

7×7 Galv. air engl w Meadocraft -Theore see if you can op - 2000 ft of a steel cable about one eighth of much in deameter made of very fine coins Hich Robeling Cow works it for its on Special government arder -The wire phreferally should be their plough steel Cuble wine wheat is the strongest they wake, we could get along with their next alrongest stad with of planes steel would delay Them - This is for our Exportunat here dolich is of quent importance you may have to go to their Myfork have beened down I don't Knach anytory but Roebling but perling

you may find other makers—

Jet an wish we not four from the a

december of the atrands which

we wished together to form other

Cables— We could mad 3/16 did

but about you beat,

Theigh what you can do I'm

lave you get it said by Express

Tell Lewes Ott to make me up about 5 lbs of the Varietino with the best present mealing - The Zine to prevent mealing - The nate book left by furth will note book left by furth will peak offer, give him best proportion of purch found - also send purch found - also send purch found - also send

2 des el fred Zine flow un Deperate punkuge. by Epperer Teky of the 1918

Tacknowledge with thanks the communications referring to the "Valoria".

Several naval officers with whom

I have talked and who have had experience in the danger zone, and one merchant eteamer captain who traveled in convoy with the "Valeria", have all said that they believed in the system of concealment which was followed out in the case of the "Valeria", but as yet we have no official report on the "Valeria" from the United States Mavy so far as I have been able to learn.

Paithfully yours,

B/JGH Trank II, Hace

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON,
PETER COOPER REWITT.
WILLIAM L. SAUNDENS,
COMMAN,
THOMAS RODINS,
ECCHETARY.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

February 7, 1918.

Mr. Thomas A. Edison, Edison Laboratory, Orange, N. J.

Dear Sir:

ordain information largely culted from the reports which have been made by the various cutstanding Committees of the Board on Examiners. As many of these reports were made monthly of the continuous continuous as the continuous continuous as a many of these reports were made monthly of the continuous continuous. As many of these reports were made monthly on the continuous continuous

Since the organization of the Committee of Examiners, nearly 42.000 letters have been received from inventors and nearly as many inventions have been passed upon, and only. 1555 of these have been referred to a Board Committee, or about 4%. So far this year only one-half of one per cent of the inventions submitted have been referred to a Board committee, inventions exhibited have been referred have and good use of the information they have gleened from the reports of Committees, and have been able in a large number of coses to act without assistance. It is, therefore, evident that the Examiners should have up-to-date information.

Thanking you in advance for your kind attention in this matter, and hoping that we may hear from you in the near future, we remain.

Very truly yours,

TR: BAC

Secretary.

DEFENSIVE NETS

CLASS 1.

MOVING SUBMARINE BARRIER

SPERRY J.B. NAU

This method has been used a great deal in the North Sea by England means. The nest there have been about 5,000 fingland among the nest there have been about 5,000 for prohibitive degree, if towed at any practicable speed. The behaviour of nets, oither towed or annhored in a current is very difficult to comprehend until seen.

BOW MINE PROTECTOR

SPERRY ALEXANDER BOYNTON

The false bow mine protector is all right for the bow, but the mines as soon as they roll off the end of it, would once back and hit the ship, and 400 pounds explosion of T.N.T. at any distance outboard at which it would be practical to carry such a device would not only blow away this protector but would injure the ship. This amount of explosive would be vary injurious to ordinary ships' hulls at any such distance.

TORPEDO DEFLECTOR

SPERRY W.W. BLACKBURN

#3

#2

#1

All torpedoes have net cutters.

NET WITH MINES BUREAU OF ORDNANCE W.L.R. EMMET

There is no objection to the combination of mines or bombs with a net, provided they are made safe to handle. The Havy has several types of mines or bombs which are believed to be entirely catisfactory for this purpose.

OFFENSIVE NETS

CLASS 2

ANCHORED NETS

A.V. SIMS

SPERRY A very imperceptible tidal ourrent causes the net to lop way over to one side and to sink the type of the net to a surprising extent.

ANCHORED METS

SPERRY

A.V.SIMS

Note are of little use unless upper rail comes very close to the surface, as submarines run on the surface 95% of #2 the time.

ANCHORED NETS

SPERRY

A.V.SIMS

There seems to be a hesitancy on the part of all the Navies to employ note with bombs forming a part of them, owing to the great danger in the very rough handling which these not invariably record, especially when attempts are made to lay then in rough weather. #3

MOVING SUBMARINE BARRIER SPERRY J.B. NAU

This method has been used a great deal in the North Sea by England and Frence. The nets there have been about 3,000 feet in length, but are found to bunon and lean over to almost a prohibitive degree, if towed at any practicable speed. The behavior of note, either towed or amohored in a current is very difficult to comprehend until seen.

TORPEDO DEFLECTOR

SPERRY

W.W. BLACKBURN

#1

All torpedoes have net cutters.

MINES CLASS #3
MINE-ELECTRICALLY DETONATED SPERRY G.H. THOMPSON

Unreliability is introduced by electrical contacts.

MINE-MAGNETICALLY DETONATED SPERRY E. H. MOHENRY

The magnetic feature has been and is now under very careful investigation by a committee of this Board and to date has been found extremely meatifactory, owing to the extremely short distance through which magnetism is found to be at all effective.

DESTROYER TOWING MINES SPERRY JOHN W. PETERS

This arrangement has been tried in England with a decoy and has not been sufficiently productive of results to warrant its continuance.

CHASER TOWING MINES SPERRY JOHN G. LEE

This would be a good device if the whereabouts of the submarine were known. There are a great many perfectly successful methods, including the new quite well known dopth charge of the U.S. kavy, for dealing with the submarine when its whereabouts is determined. The problem lies rather in the locating of the submarine.

MINE ATTACHED TO SUBMARINE
BY MAGNET SPERRY F. W. STEERE

Magnets would not hold to a boat running through the water and therefore the scheme is impraotidable. The main point would be to locate the submarine. Magnets are found almost valueless for the purposes named. When the submarine is none located very eight meane are at hand for disposing of it.

#5 .

MINE SUPPORT FOR CHASER SPERRY ROBERT WOOD

The difficulty with this device is that the submarine usually stands off at a distance laterally from the boat. A submarine always sees the boat before the boat sees the submarine. The present depth mines do not require special devices for handling and are probably better.

CONTACT DEPTH MINES SPERRY PROF.C.M.SPARROW

A contact depth mine, rising to the surface if failing to contact, is unnecessary and inadvisable. The sessme of the depth charge is that it orphodes the contact of the substantial contact the surface of the substantial contact depth along a surface the necessary accuracy to strike, the recovery sentences to particular value and would necessarie measures safety precautions to insure absolute safety in picking

MINES

#8

CLASS #3 (Continued)

AEROPLANE MINE LAYER

SPERRY

T. J. CAHILL

C.E. HAMMOND

When an effort is made to lay a torpade by an aeroplane, not only does the horn suffer, but the torpade itself is likely to be broken up. These has been made arountly which show that the torpade made the made arountly which show that the torpade made that the nor way resemble seroplane appear and the second that in no way resemble seroplane appear and two parts in the most classification and the second parts around augusted for protecting the horns that all the second to the second the second that the second that the second the second that the second time are to be wholly dissolved in a very short interval of time, so a stoulder of operation when the target is finally reached.

MINE

SPERRY

Cases where the net or anything connected with it has to be anohored to the bottom of the sea have been proved to be improaticable, beodure the nete are entirely unmanage-able in even the feeblest tidal currents.

TORPEDOES

CLASS 4

PROJECTILE TORPEDOES .

MAXIM

EDWARD NORTH

There are no means detailed in this came by which a torpedo may be provided with the nonessary mechanism to make it function as a torpedo facility water, and which mechanism would be to the common of the details to recommend that any experiments be conducted with the details.

TORPEDO DESTROYER OR DEFLECTOR

SPERRY

WM. W. BLACKBURN

All torpedoes have net cutters and one has to be very guick to get anything down in front of an oncoming torpedo, let alone seeing the torpedo at all.

DEVICE FOR DESTROYING TORPEDOES

LAMME

D.A. KIMBARK

All the evidence that we can collect from those with experience in the operation of torpedose, shows that it is hopeless to attempt to protect against them after they are once fired. The interval between fixing and hitting is usually so short that it is difficult to act within this period.

MULTIPLE TORPEDO DIS-CHARGING APPARATUS

SPERRY

FRANK BAKER

It is not understood that there is any great demand for a meane for firing a large number of torpedoes quickly, as only one hit with a torpedo is necessary to disable a ship.

CATAPULT

#4

#5

SPERRY C.G. FALLON

The best catapult energizer known is gun powder. A torpede is expelled by nothing more nor less than a catapult energized by two or three cunces of powder, in which dase the apparatus cocupies less valuable space on board ship.

TORPEDO CONTROLLED FROM SHIP BY CABLE

SPERRY

G. D. CAMPBELL

A torpedo contolled from a ship by a flexible cable connecting it with the ship was the first kind of torpedo built, but was discarded for the present dirigible type. The weight of cable, difficulties in installation, etc., render it impracticable.

MAGNET CONTROLLED

SPERRY C.V. LEIGH

Numerous experiments with regard to devices utilizing magnets have been tried with discouraging results. It has been found that magnetic influences are not fart at a distance.

TORPEDOES

CLASS 4 (continued)

LONG RANGE TORPEDO

SPERRY

HOLMES DUKE

The great difficulty in getting proper direction for a long duration of time renders the long range torpado impracticable. Torpedoes running at or near the surface are not considered practicable, nor are torpedoes directly operated by combustion angines as motive power.

MAGNET CONTROLLED TORPEDO SPERRY

P. O. PERKINS

No magnet, unless in actual contact with the steal ship, would give magneties enough to control the torpedo. The steal things the steal of the steal things of the steal that the stead that the steal that the steal that the stead th

NEST OF TORPEDOES

SPIERRY

P. O. PERKINS

A great many nest arrangements of torpadoes have been considered, also torpadoes combined with nets. The Government does not believe that any of these combinations are as practicable as means that are now at hand.

SOUND ACTUATED DEVICE FOR

CONTROLLING TORPEDOES LAMME

D.A. KIMBARK

#11 at a distance of a mile or more, is or faint and indefinite that
it is not believed that any controlling device depending on sound. waves
for action could be made operative.

PROJECTILE TO DEFLECT TORPEDO LAMME

AUGUSTUS L. MOSS

Torpedoes are not sasily deflected in this manner,
Heavy charges have been exploded experimentally directly in front
of and at the side of torpedoes, for the purpose of determining
the possibilities of deflecting them from their course. The
regulating gyroscope of a torpedo immediately brings it back
its normal course, so that such method say be considered to the
term of the deflection of the sound of the desire of the sound to the
term of the deflection of the desire of the terminal the vessel.

WIRELESS CONTROL OF DIS-

BLISS

C. G. SPENCER

An extended series of experiments have been made in this direction during the peat few years, by engineers in this first extended the series of the principle difficulty to selective wireless control, the principle difficulty to the series of the series o

### TORPEDOES

### CLASS 4 (Continued)

strength, is liable to interference at any time, both from enemy and friendly ships or wireless stations, and such interference is likely to be attended with unexpected results. For this reason no practical use has been made, up to the present time, of suggestions of this network.

SUBMARINES

CLASS 5

ONE MAN SUBMARINE

ADM. A.W. GRAHT T.

T.W.SOFCE

It is the opinion of Havel Authorities that no one-man or two-men submarine can be built which will prove effective in #1 any degree. The fundamental alfificulties of operation of such boats render them imprecticable instruments, deserving of no expenditure by the Covernment.

BABY SUBMARINES

LAKE

WEARKTH THE JOHE.

One-man "Baby" submarines would, on account of their low speed, limited range of action and unseaworthiness, be of very little use today.

SUBMARINE TO FIGHT SUBMARINE

LAKE

FRANKLIN INS. JOUR.

. As it is impossible to see the invisible, submarine cannot fight submarine. Infested as have been the saters of the North See and English Channol no once is been where one submarine inc ans succeeded in citing section. An Austrian submarine did sink as Italian, but the letter was surface cruising.

SUPMARTINE

SPERRY

PREDERICK A.PHELPS

When we once know where a submarine is, or even its approximate position, the rest is easy.

MARINE DETECTION DEVICES

CLASS 6

SOUND ACTUATED DEVICE FOR CONTROLLING TORPEDOES

LALEE D.A.KILBARK

The sound made by submarines when traveling under water, it is a distance of a mile or more, is so faint and indefinite that it is not believed that any controlling device depending on sound waves for setion could be made operative.

DETROTION OF SUBMARINE BY

LAISIE B.A.WILLIAISON

Tests made on an actual submarine have shown that the magnetic effects, due to this mass of iron, are quite limited in range. For instance, at 150 feet distance the magnetic effect, to only about 1% as much as the critis magnetic effect. A submarine at 1000 feet distance would shaw on effect so small that no instrument on shipboard could detect it from other influences.

UNDERWATER ILLUMINATION

SPEERY

W.F.LAY

Experiments are being tried on underwater illumination, but it will be some time before it is known to what extent boute may be seen by secretilight beams or light from other sources.

UNDERWATER ILLUSTRATION

TATRIE

R. J. PARRICH

Underwater illumination depends upon the amount of forcign material in the water. Around England the water is so marky that a range of any light under water is extremely limited. On the other hand, along some perts of the American coast, the orange is several times as great, due to the purity of the water.

SUBMARINE DETECTION BY

CUID

WHITHEY

PREDERICK T. IDDINGS

One of the difficultic with the simple form of sound detecting device in that the undestrible sounds and disturbences do not come from a definite single source, which would permit of a being hotting each other out, but they come in the source of their plotting each other out, but they come in however, receiving curreful study, and the same may be said of the trombone slide, which was introduced into the problem a long time ago.

SUBMARINE DETECTOR

TATEER

G.M. MARSHALL

That the pormeability of water is many times greater than that of air is not borne out in practice, and, in i.etc. we can find no difference in the magnetic indications in water and in the cir. The magnetic offect due to a numerice in a distance of 100 yards is so minute that impossibly delicate experutus in needed to show such effect. Experience shows that the delicacy is very much greater than in permissible on shipboard.

WIRELESS

OT 100 5

WIRELESS CONTROL OF DIS-

DT.TGG

C.G.SERMONE

This direction during the proof for perriamits have been made in this direction during the proof for years, by on incore in this country, and mose interesting results have been obtained under feworable conditions. Unfortunately, however, in actual respection of the country and account of the large proof of the country o

SHIP CONSTRUCTION

GT-/ CC 8

FROM "THE MARRIE JOURNAL":-

Ortland, Ore, for the Covernment is that they will be settles and in place will have olderfule state in place will have collected and in the mental tends that in the collected are the relacd when in port and utilized in the mentaling of eargo. Whis decipies were depend to reduce vicibility when it set in the war some.

HEAVY CUIS AND SHELLS

CLASS 9

QUANTONING DEVICE

MAXIM

MAJ.J.W.WAMSON

It is a very all empetant to attach to rather the model of a settler in the pure term any times that an and the pure term any times that and found of the first terms of the pure that it is the common to the time of a projectic in order to impart to it the required velocity. That the required velocity. That the required velocity, that are the pure to be provided in the continuous and by leving out the causinous game by leving an air species instead.

TROOTEOMITE.

MAXIN

HENTON L. MALL

The griding object of an armon-plered, projectile in bet only to passe a she in a chir, but also be ready as explorive charge through the belo. In transplered, projectile without an explorive charge would be practically vortables.

PROPERTY TO DEFINE

....

NUMBER OF TAXABLE

Sirce'ly in front of and of the missisce contributed by the form of the first of the paragraph of the first of the paragraph of the first of the paragraph of the first of the countries of the first of the countries of the first of the countries of the first of the

NON-RICOGRATING PROJECTION MAKIN T.R. BILL

The Havy Department is already comploying a settingfactory men-ricocheting projectile which, in the opinion of the committee, is comperior to the device procented, and for that reason the committee does not recomment that experiments be conflucted with the latter at the expense of the Government.

FROJECTILE-NON-RICCOHETING

SHILLING

The Boy has one or more types of shell that punetrate the motor satisfactorily, and my improvement would be along the line of streighter under water trajectory and reduced, but it would seem that inventors the laboring under a misepprehension; vis., that the shell tall account 25 to 50 calibrocan the fraction of a revolution which it makes while entering the water in englights.

CHAIR SHOT

SELLERSS

TROUGE ROBIUS

mid principle objections to chain shat one its limited range and its land of accuracy, as compered to rifle projectiles, get a high velocity or a mederate range requires a very strong construction, and may not be feasibilt. Used gainet simplify and corpolates with operate et from 10,000 to 10,000 and coursely of life of will be entirely insident to the in range and accuracy of life or

HEAVY GUNS AND SHELLS

CLASS 9

CHAIN SHOT SUBSTITUTED FOR SHRAPHEL BULLETS IN SHELLS MESSICK

S.R.SCHAFF

ereased air resistance, does not travel accurately for any onmiderable distance. Proposals to the couractely for any onposals to the control of the control of the couractely for any one courage of the control of the control of the courage of the courage of the courage of the chain, no satter in what manner it is projected, its irregular and very high, so that its trigotory is errests and its range short.

SMALL ARMS AND ALMUNITION

CLASS 10

CENTRIFUGAL GUN

MAXIM

WALTER T.STANTON

The device is without useful novelty or practical merit il for the reason that Centrifugal Ohns would be entirely valueless in modern warfare in competition with other means now in use.

CENTRIFUGAL GUN

TAXIM J.P.O'CONNOR

The Centrifugal Gun of any type is useless in modern warfare in competition with other means now in use. No model is needed to pronounce upon this device.

MACHINE GUN - FOUR-BARRELED ROTARY - FOR AEROPLANE MAXIM

H.J.YOUNGBLOOD

It is the sense of the Committee, that the advantages, if any, of this device are not sufficient to warrant the additional weight and complication of the arm.

MACHINE GUN - THREE-BAR-RELED RIFLE

HIXAH

ARMAND CALAME

The advent of the automatic gun in 1887 put all other forms of machine guns out of the running. There are no many advantages possessed by the automatic guns and the state of the state of

EXPLOSIVES

CLASS 11

GAS MIXTURES

MAXIM

O.K.MaoFADDEN

The substitution of explosive gas mixtures for high explosive charges in bombs, torpedoes, projectiles and the like is absolutely impracticable.

GAS MIXTURES

MAXIM

C.K.MacFADDEN

\*2 where already available high explosive bursting to charges far more powerful than could possibly be produced by the employment of such gas mixtures under the highest compression.

GAS MIXTURES

MAXIM

C.K.MacFADDEN

#3 which would equal any explosive gas mixture that could practionally be produced and at a very much less cost.

ARRONAUTICS

CLASS 13

AUTOMATIC-PILOTLESS-BOMB-DROPPING AIRPLANE

WMS. A. BARNES MAXIM

impranticable. One of the main objects sought by such devises is to save the life of the waitor, the ordinary inventories recognizing the fact that it is far used to the terminal the life of sen in war the lives of sen in the life of the life of

FLYING TORPEDO

MESSE CK

N.H. NELSON

The general idea of a flying torpedo is not new to us, and has been given a great deal of study by experts... The design of such a device presents many problems such as, light powerful, rollable motor; a controlling degree of the powerful, rollable motor; a controlling degree of varying air curten borpedo through to light and the borpedo through to light and the problems will give sufficiently accurate manufacture of the surface of the s aiming or the torpedo. Aven the most exact instruments itsi, short of this last requirement because of the curvature of the earth's surface preventing the gumners seeing the target. If these difficulties can be overcome, this device will be of value.

MULTIPLE BLADE PROPELLER

EDWARD E. ADAMSON

The multiple blade propeller has been found inefficient as compared with one having two or four blades.

FEATHERING MULTIPLE BLADE

SELLERS

SPERRY

SELLERS

ROWARD E. ADALISON

The exact action of a feathering multiple blade pro-peller cannot be predicted, but the presumption is that it would be inserticient. Foothering blades for horizontal pro-gression have been proposed and are being experimented with. A reaching propeller will have to rotate very slowly and consequently be large.

AEROPLANE OBSERVATION AT-TACHED BY CABLE TO SHIP

MARIO SCHIESARI

The plan proposed is tremendously expensive, both as to the ships and the scroplanes themselves, and does not seem to the ships and the seroplanes themselves, and to be practicable, as it would introduce great difficulties in flying. The seaplanes themselves are not reliable, as we may be a seaplane themselves are not reliable, as we have determined after four years' practical experience. The cable would give an intolerable head resistance and added weight to be carried, and bables would, in all probabilities, become entangled.

AIRPLANE ENGINE

J.R.RIDLON MAJOR J.H.SCUTLEN

It is inexpedient for this office to consider or express an opinion on engines mergy in precess of design. This office is interested in engines that have passed this preliminary stage and have undorgone actual test. Your attention is called to the and have undorgone actual test.

#### AERONAUTICS

#6

CLASS 13(Cont'd.)

tendency in contemporary development to meet future requirements, resulting in the following desirable airplane engine characteristics:

Horse Power, 260,350,400 or over. Propeller r.P.m. 1400 to 1000 Propeller genred down from engine speed Total weight per H.P. not over 2.5 lbs. Horse Power per cu.in. cylinder displacement from 0.28 to 0.28 or over Fuel consumption in lbs. per Horse Power hour from 0.50 to 0.45 or under

AIRPLANES WITH FOLDING

SPERRY

FRANK A.GERRUTI

The Wight scaplane in England has folding features which have proved practicable for storing in ships. For land machines folding is not desirable.

TILTING PROPELLER

SPERRY J.W.CAMRIKE

The scheme of so mounting the propeller that it may be tilted at any angle relative to the machine, the object being to get away and land in small spaces, is not practicable.

DIRIGIBLE DRIVE

SPERRY

T.S.HARRIS

#9 Driving dirigibles by air jets creating a vacuum in front of gas bag would be highly inefficient.

PENDULUM AIRPLANE STABILIZER SPERRY

F.E.WHITLACH

#10 be of no value. A pendulum will not operate successfully on board ship, smod less upon an air ship, where all the motions are greatly accentuated.

INHERENTLY STABLE AIRPLANE

T.C.RUSSELL

the inhorently stable machine is not desirable. It always means inhorent "crankiness" in anything rosembling rough weather. The British Government tried it and gave it up.

CAPTIVE SEAPLANE

SELLERS

SPERRY

C.A.DeCASTRO

The suggestion of utilizing a captive scaplane in de-#12 tecting the presence of submarines and torpedoes has been made many times. The idea is inoperative am impracticable.

AERONAUTICS

CLASS 13-cont.

SAFETY DEVICE FOR AIRPLANES

C.A.DeCASTRO

#13 The scheme of using a parachute for saving an airplane in case of motor failure has been tried out long ago.

LIULTIPLANE

MABY (Sperry) R.S.COTHRAN

An airplane having a great many planes, choolately flet and 100 feet and 50 feet wide, placed one foot maper. It is clatical task to planes being flat no undulations of air between the planes will take place, thus asking it possible to use a great many planes, very #14 wide from front to base and planed close together. The resistance would be so great that the number of engines required to operate it successfully would tex practically all of its sustaining gover. Also, undulations would no doubt take place between much wide planes.

AEROPLANE LINE LAYER

SPERRY

SPERRY

T. J. CAHILL

When an effort is made to lay a torpedo by an accordance, not only does the horn suffer, but the torpedo itself is illedly to be broken up. Testu have been made recently which show that the torpedo under conditions that in no way rescable sirplanes speeds right occidents and twables in the most disastrons nummer. The method suggested for protecting the horns might be good but it is so nocessary to work quickly that the soluble satter would have to be wholly disastron to the control of the control

LIFE SAVING APPLIANCES

CLASS 15

LIFE SAVING DEVICE

LIELER ALER

AMERICAN LIFE BUOY CO.

The service will not consider any life saving device which  $\dot{x}1$  has to be blown up, or which if punctured, loses its supporting power

STREL PUTTERS

TIANT

CHAS. D. AIKEN

It would not be practicable to make steel puttees sufficiently flexible to make them comfortable for the wearer, that is to say, leather would serve the purpose better in the support Steel would not be of greater value than leader to steel would would rust badly. Steel being so good a canductor of heat, steel puttees would be rather cold for the legs in winter, even though lined or covered.

LIFE BELT

72

HILLER-MAXIM A.L.SLEE

No life belt is acceptable which needs inflation. Rubber rots quickly.

METAGLIC COLLAPSIBLE LIFE BOAT

CAPT.A.P.LUNDIN JOHN A.COMMOLLY Jr.

A size/unless of this construction in that wooden bulkleads are attached to the steel shell in the double bottom. Experience with such construction shows that it soon starts leaking, principally on account of the expansion and contraction being greater of
the wood than in the setal, and therefore such bulkers of the expansion and contraction being greater of
the wood than in the setal, and therefore such bulkers of the expension and the expension of the e

STEAM ENGINEERING

CLASS 19

STEAM PURIFIER

HUNT

H.E.BAYRIE

The present system of dry pipes employed in the Naval boilers gives a steam of a quality so high as not to justify the installation of additional apparatus.

ECONDLY & POWER PRODUCTION HUMP.

EVERETT W.SWARTWOUT

The presibility of the use of intermediate super-heating is one which has often ongepent the attention of engineers. Its possibilities involved and space occupied have always condemned it for use on bord ships. Experiments were made with a small engine using a ways only selected the state of the condition of th

FUEL & FUEL HANDLING

CLASS 20

SHOKE PREVENTION

ROBIUS

PERCY H. THOMAS

Various processes for prevention of smoke on vessels have received most careful consideration from this Board and it has been decided that as they involve the use of somewhat elaborate apparatus, they require more careful supervision than they would be likely to receive on an ordinary saip. With the best of these systems the uncertain human element is likely to receive on an ordinary ship. With the best of these systems the uncertain human element is likely to fail. The Board, therefore, decided that the only safe system of smoke prevention was that in which smokeless fuel was used, and we are doing everything possible to facilitate the use of anthracite coal and other smokeless fuels.

PULVERIZED FUEL

HURT

CHARLES C. HAVILEY

The subject of the use of pulverized fuel under boilers of merchant vessels has been given careful thought. There is no quention that the use of this fuel has been successfully worked out by shore than the use of this fuel has been successfully worked out by shore than the confidence in the confidence of th standards, but considerable difficulty may be expected when amplied on svandards, out considerable utiliculay may be expected anon septice on board ship as the space and weight required for dryers end pulverisers then becomes outte a factor. Up to date the Board has felt that it was not advisable to recommend anything being done in this direction.

SLIOKE CONSULER

J. J. BALDWIN

There is no question that the visible matter in smoke can be scrubbed out with certain types of apparatus. The whole subject has been considered at length, and the conclusion reached is that to handle the cuantity of gases emitted from a vessel's stack will require in most cases such an amount of machinery and apparatus, as well as power, as to make the use of such a system inadvisable. The small submarine chasers are equipped with internal combustion engines and emit no smoke Torpedo Boats and Destroyers use Oil Fuel, and can suppress or emit s smoke at will.

ELIMINATION OF VISIBLE HUNT

M.ALPERN

This whole matter of eliminating visible smoke by scrubbing the stack gases has been very fully considered in connection with the work of the Ship Protection Committee of the Emergency Fleet Corporation, and it has been decided that it cannot be applied without such serious and it has been decided that it cannot be interference as to render its use inadvisable.

AIDS TO NAVIGATION

CLASS 22

STEERING DEVICE

SPERRY

E.HU BOLDT

Controlling the steering mechanism of ships through electric contacts controlled by a compass is old and is in use to a mimited extend in torpedoes.

AUTDMATIC STEERING OF SHIPS

SPERRY

J.H.O'NEILL

A selenium cell arrangement to control steering gear from compass card is old as to idea. There would be no apparent use of this system in the present crisis, and manual control of a ship is preferable as it is on the side of safety.

#### INTERNAL COMBUSTION MOTORS

CLASS 23

#### ATRYLANE ENGINE

IGINE MAJOR J.H. SCUTLEN J.R. RIDLON

It is inexpedient for this office to consider or coppress an opinion on engines mercly in the propess of derign. This office is interested in engines that have the construction of the construction of the content. Your attention is colled to the tendency in contemporary development to meet future requirements, resulting in the following destructe attribute characteristies:

#### ECROSHIE CARBURETIES

PARSONS

Lany types of karosene curiumeters have been suggested and many patents then ont and in a lors speed entite most of the many patents then out and in a lor speed entite most of the many patents that the state of the many patents are 10° revolutions or creater, the kerosene gases will not operate satisfactorily due to their elugidences. A korosene curbureter is not a satisfactory method for carbureting fuel oils for use in high speed engines.

INDICOPPO, RANCE FINEDRS, DIG. CREIGAL GLAGS.

38 22<u>110</u>

PERISCOPE-BLENDING-HINTUPE FLOATED

J. F. A. PHILLIPS

It is the sense of the Committee that the occum areas are so vest in which subscribes are operating that it would be happy ximile to attack and real will estimate only results. #1

PERISCOPES INVISIBLE USE OF MICRORS SECT. DANIELS

the subject of invisible periasopes and the officers invisible in that took have one to the conclusion that took have one to the conclusion that and nirrors is not practicable. Any reliable of the conclusion that in vital cause and to practicable and reliable of indicators in the conclusion of the c ungle of anotherne and residential and serve more to refer the position of the enhanting than orbiting else; alumnt it is very difficult to see a subardine perisone, and the artistic mee of point enhanting the four and presentation of point example in middle perisoners of making a perisoner in middle.

POLARIZATION DEVICE FOR DINOCULARS

42

#5

W. F. SUTHERLAID

The suggestion that a golarization device, he used in binoculars for sutting out the glare at sea, has been trice with 43 success.

SHOOTING BLINDING MATERIAL AT PERISCOPED

E. B. HONTLA

WIITHEY If a princope can be seen to shoot at, the rest is easy. When a subsarine in actually in eight it would seem preferable to fire emploaire chells to destroy the subsarine, rather those time and material to fire blinding material at it, 54

UNDERWATER ILLUMINATION GARDUER DR. E. A. TRAPP

Exponents of the undermater telescope expect great results from the use of a large consensing loss in front of the telescope. But the amplification led telescope under such consistency as that the greater led the same ratio as the light greap, so that the greater may of the ratio a consensing the same ratio as the light greap, so that the greater may of the ratio of the eye and in the ideal positions of the fine remains the same. Actually, and the same telephones of the image remains the same Actually in the light case of the image remains the same and the light time of the image remains the first large large is re well established as the language of perpetual motion. of perpetual motion.

OPTICAL GLASS, PERISCOPES, RANGE FINDERS, ETC.

CLASS 25 (Cont'd.)

MIRRORS TO MAKE A PERISCOPE INVISIBLE

RIBET

IR.ROBINS

be better and singler to use gyrandia instead of comes. As long as those worsplaced at such as the comes as a long as those worsplaced at such as the comes. As long as those worsplaced at such as the comes as long very rood. A sylindrical mirror would show a bright line on one side like a polished shaft and any flat worted surface might reflect the sig when the best rolled. The enclosed shelds have a confined the side has a confined the side of the confined shaft and the confined shaft and the confined shaft and the confined shaft as periodogs if the mirror was turned toward the vessel attacked. The objection to that is that on each gyrand or come surface, we would not the reflection of the case below. Such as mercane, we would not the reflection of the case below. Such as account casely so experimental with me might be worth with.

BOMBS

CLASS 28

PARACHUTE BOLD

W.L. LOOPE SPERRY

Bombs with parachutes have been tried, but they carry so much sail that they are totally unreliable on account of the encomous factor of drift, which always is an extracely uncertain factor. Owing to these circumstances this device cannot be resonanced. #1

DECREASING VISIBILITY

CLASS 50

SHOKE CONSUMER

IRILITY

LILLER

W.J.BALDWIN

There is no question that the wishle matter in smoke on he sayshade out with certain types of appuratus. The whole whole he has been considered at length, and the corolivers of the constant of the constant

ELIMINATING VISIBLE SHORE HUNT

M. ALFERN

mis whole matter of eliminating visible smake by scrubbing the state game has been very fully considered in connection with the work of the Enip Protection Committee of the Emergency Floot Corporation, and it has been decided that it comnot be applied without roch forliow interference as to render its use inactively.

EXTRACTS FROM LETTRES RESPECTIVELY TO

UR. THOMAS RODIES; ADMIRAL ROUSSEAU
SHIP INVISAND MR.S.G.LOOH

W.A.MACKEY

When the Mackey designs were first und the Accist was put on in lines and angles, using the colors to broad masses with the state of th

FROM "THE MARINE JOURNAL":-

An imnovation in some of the vessels building at rortland, for the Government is that they will be mattless and in place will have collapsible steel towers that can be redeed when in port and utilized in the handling of cerge. This design was adopted to reduce visibility when at see in the war zone.

Reed 2/8/18

Meadocraft,

allended to

Acre Hayes the thous much suconding man who is working with Halland, sent down to Key Loget, Have him bring a Comptato Cylinder/succonding octfut + Extras to where up sensitive referred also Listening Merchine also Mecroscape a stand for looking at expender + a fair supply of bolice 9 Specially dark chelored wax recording becooks, so we can rea to want to record weth the 200 (weed knife and also with 40/1000 100-thecord Kilifs AE Getter come by Wallory line Leaving Ill ondo work | Tuesdays fore 3240 uclendes weals room a complining - Otops Kay west also have the manifrom nyark

teding laboratory with his approcalis Only want one man from towling Luch as wa have lot af bright men how to convert but if its activation, necessary they should send too then OR

If Hayes or the My lab men Chent heake the Steamer walland bug delay They can come Ey train, but they should part Their copposition at ence oxcud Ochead Ca Experies,

Tocogh when Ether Leave



# WESTERN UNION

RECEIVED AT C

238 MAIN ST. ORANGE, N. J.

KEY WEST FLO FEB 8 1918

M P MEADOWCROFT

EDISON LAB ORANGE NJ

HAVE THE NEWARK MANUFACTURER OF THE FIRE PROOF PAINT WE
USED AT SILVERLAKE SEND SAMPLES OF PAINT CATALOGUE WITH PRICES AND
FULL DETAILS AND PARTICULARS BY EXPRESS TO KEY WEST

Paint Co Thick V. P. they EDISON
1157PM
Patter new arts for which Brook 6100 Clust Mc Maybe

U. S. NAVAL STATION KEY WEST, FLORIDA

Jeby 6th 1418
My dear Mr Meacloways fust a note to Jay That I have amongst with the Commondered Mr brand, with whom Mrs Har Edism are stopping, hen in a most brantifee navy yard and if a line hour, and family, to murular mr Edism' birthday Loly 11th by having their around and varanda durarated with flowers to by

a orgular decoration, and to have a few loughes come in in the ofter moon and worning his birth day. I got a feur office room ( Destrut Judge office) in and call on three too will have View Starry Francis. all just in arendone with what now E. the custon house, Which is in the navy yord for him and he brews to be delighted linch. Her Commandants Daughte with every thing. is to have a few in the Line wrather about 65 rowing at a dame the is I fine fish (King fish) about the day Every Wine is very view fact long, Every Wine is expected how for their and the trium of the winder to have left unfork doubt enjoyer having them to Multiples In to day. Much you have we are all the tune. Mr. E. Caught quing in honor of ten birthday Every thing is very view tim for their and the Comme-

not over looking him on

Reed. 2/9/18 Mandocraft There subscribes for Jimes World & Sunto 6-2 out to me at key cocat, subsercts for two 1/2 months 7 com Offine allower to 2/9/18

Homas a. Edward

Thomas a. Edward

Cane Commissional

L. S. Maria Station

Key West, Ita,

Sta consingurants made: for

Hayes and Jesting Labrichy more

to sait for they West by Mallory

Stemmer saiting nearl Jesting;

Multiple their opposition and

material thydrogen. Delector,

too proof Frank, duty provings of

and newspaper implies me com

Fobruary 9,1918.

Hallory Line,
Pior 38, North Elver,
Now York, N.Y.

Gentlemon:

This ideas will be precented to you by ir. Alliem a. Hayon, the is connected with the Laboratory hore. Ir. Alf-con desires that to ro down to key test on your best sailing Tunckey, Yobrury 11th, and to the olony on the same boot a trust and to cuse of apparatus models by ir. Alfoon in his work for the downsmooth. All you along ablire ir. Alfoon by harder with apparatus ro down on the sail ir. Anyer.

Yours very truly,

Assistant to Mr. Edison.

../461.6.

Deg to admontaline recolst of your favor of January 20th, in which you mention lir. Misson's recommendation of the HILL GAMO DRILL to lir. Harloy of the U. 3. Shipping Board.

As a direct result of ir. Edison's recommendation we have received requests for additional data from representatives of the Emergency Fleet Corporation.

Am onclosing herewith copy of letter I have sent to said representatives, expecting Mr. Edison will be interested in it.

I will greatly appreciate your forwarding this letter and enclosure to Ur. Edison.

Encls.

Haven Hill

## [ATTACHMENT/ENCLOSURE]

Fobruary 9th.

Hr. H. E. Frick, Emorgoncy Floot Corporation, Finance Dailding, Philadelphia, Pa.,

Door Sir:-

### THE RE: HILL GAME DATES.

Allow no to express my approxiation and thanks for your favor of Jenuary 20th, addressed to hr. Coo. L. Unan and which he referred to re-

I wish to call your attention to the fact that I have now arranged the MILL GAME DRILL to very effectively until the bailding of ship bulle.

Would propose to construct a machine with a Si-St. upon permittibing a plate 30 ft. long and any width, to go right through; so his rachine will drive four chains, a sufficient copretty to carry one lumdred (1900) drills of 12/16 diameter, with a food of 5/1000 and 110 PMT, which will go through helf also his loss than one minute.

I then propose to have enother mothers in best of this drill proun rishs round slave the zero spen engagency just covered drills to make the vertical like, and brother and of the plate, and the river below the control the control of the control o

The ren operating the rechine does not necessarily have to look at the plate, he can tell by the dials her the rivet helos are to be speech, as for as the vertical spacing to concorned. It releas little difference whether the plate

### [ATTACHMENT/ENCLOSURE]

H. E. F. Shoot (2.

E \_ .

2/0/10/

is rectangular or wedge shaped, providing there is a given distance between the end holde and a given pitch itself will must hear a painter to a graduated often the content of the providing the content of the content

Through my nearly visits to ship yards, I find approximately 00% of the rivet holes are reast to be in straight lines. To my nind this percentage can be enterfielly increased.

About 60% of the ship lates are rectangular and a great rany of uniform class. These can be detailed in three or few-ply together. The resulting are inexpensive in their construction, and take configuratively very little perce in their operation.

Hoping this ratter will most with your agreeval,  $\tau$  remain,

Respectfully yours,

Encls.

## WESTERN UNION TELEGRAM

| CORDINE NO. ATURE, VOLUMENT | V

No. 52.

Fob. 11, 1918.

Mr. Josephus Daniels, Secretary of the Newy, Washington, D. C.

My deer Mr. Secretary:

I have devised a plan for taking cargo boots out of serbor shade ure liable to be wined by attending the layers. It also utilizes the small subvariae chasers to great evantage.

The mind is to one two chapters of a boundred foost opent, rounding in parallel, instruces which is a very small officed could only one eighth of an inch in discreter and connected to reper separation. These chapter proceed to an following by the earny beat or bounds about hid a unite content and adding adding between the chapter of the content and adding adding between the chapter of the content and adding adding between the chapter of the content of

The Navy Officers here think it is all right and a first who for the 110 feet where, I have ordered the wire and will test it with drawy, where it that harbor, there is only one chance here, one save would be an advantage in these apparences.

Very truly yourn,

No. 53.

Fob. 11, 1918.

He. Josephus Daniels, House Lary of the Havy, Housington, D. C.

My door Mr. Scorotory:

I have held better once appearants here for turning compositions in the malacratic section of the manages of the manages of the fitted by the mineral of the here control the turning of the fitted by the mineral of the here control the turning of the present of the fitted of the section of the fitted of the section of th

Vory tomay years,

DESPATOH.

NAVY DEPARTMENT,

Secretary's Office
(Barral or editor.)
WASHINGTON.

....11 February 1918 , 191

Mr. Thomas A. Edison, Naval Station, Key West, Fla.

N. S. O. 11.

Congratulations upon your birth-day.

Your friends rejoice in your youthful optimiem and clear vision of national needs. It has been a privilege to be a ac-worker with you.

JOSEPHUS DARJEIS.

Copy to maderont

Forwarded (1986) (Tittee)

(Childrengh system)

(Officer on worlds)
(Comprime sides)
(CONFIRMATION TO ADDRESSEE.)

Received

(COPY)

### PURCHASE ORDER

To Thomas A. Edison, Orange, N.J. Order No. 17216 GAM/NA

Original

GENERAL ENGINEER DEPOT U.S.Army

1438 U Street, Washington, D.C.. February 11,1918.

CONFIRMING ORDER.

Experimental work in Laboratory on dovices listed herein over period August 1st,1917 to December 5th,1917 at cost.

Laboratory Order No.

Description

Destruction of Wire Entagle-

The above has been completed.

Prices based on: Your recent quotation.
Shipments via See note above .
Liarks " " "

Requisition: 2485 Application: Experimental work perfored for War Dept. Charge o: Engineer Operations in the Field, 1916.

> by W. M. Williamson, Chief Clork.

Mead-orielt Kend Eg mach Brak draft on havet hating Bank of Fry West and Lacim

Pebruary 12th, 1918.

Mr. Thomas A. Edison,

Report on Order #5013: -

We have been testing out a one-step amplifier connected to one of the receiving stations and have been able to obtain records from a distance of over five miles that were easily read.

Our tests to date have been made to determine the proper winding of the impact coils to use with the low frequency sound of the gun and which would give the best results with our recording appearatus. We expect to have uniform semplifier equipment for all three points of our base-line installed this wask when we can make observations to determine the degree of sournary in estimating a source of sound approximatory five miles distance,

We seem to have ample power in our receiving apparatus as the record at five miles is very good and easily read, yet the sound of the gun is just barely andible to the unaided ear.

ЕT

H. Holland.

Key West Ha 2/22-18

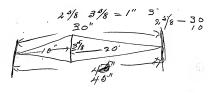
Mr We N. Meadower oft.

Grange nJ.

Dear Mr Meadowords

Mr Edison

thinks we should have two extra Copper models like the two made then for us one of them herd to Me at annapolis the other brut to me here. Pleast Mer Jackson to make up two of them and send



Meadocraft Write, Klipstein for a pound Dample of his Kraki uniform deec I find that the Marines here look like Hell - On coashing orms uniforms Turn puik - some after a while lumbs durty white ele one man east will be of his pants nearly calife, I am under imprecision What K makes a fost dys - WE can Experient with the sample herrs, dyring a piece of Their locasting reversed times - Have K send les all

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the information he can about his Kraki dy's or put no in the long of getting a classo one any atter dy's like Kraki - send Sample by about the Sample by Sample by Sample of Sam

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# WESTERN UNION

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KEY WEST FLO 913 AM FEB 13-18

DISPOSITION .....

CARE THOMAS A EDISON LABORATORY ORANGE NJ
ASK MR WOLD OF WESTERN ELECTRIC CO EXPRESS ONE COMPLÈTE
HEAD PHONE SET EIGHTY OHMS.

SHAFFNER

1138AM

Jelegram Feb 13, 1918.

Thos. a Edward

Go Commandant

U.S. Naval Station

Ney West, Ha,

Am sending, bank draft

by today - Jino dust and

Petrelatum yesterday by makery bag.

Meadoweroft

11. U. 2/12/18

Cublo States "Edison New York"

msaksuser Trom/theLaboratory ThomasA. Edison, Orange/NJ:80b. 13,1918.

Mr. S. C. Shaffner, U. S. Maval Station,

Key West, Fla.

My dear Mr. Shaffner:

the 8th instant. It was very welcome, and I am indeed glad to learn that some special preparations had been made for observing Hr. Religon's birthday. From your devery the art of the standard properties of the

A number of Mr. Rdison's old associates, composed of men who had been associated with him for 25 years and more got together two or three wooks ago and formed an association called "Edison Pioneers". It was my good fortune to be one, as this year I complete 37 years association with him. On Mr. Rdison's birthday, 43 of us met at Luncheon in New York to calcibrate the occanion and I can tell you it was a very pleasant occasion and we follows who had been friends for so many years enjoyed it greatly. We sent Mr. Edison a telegram signed by all of us

I am plad to learn that you are all fixed up with such pleasant quarters, and also that your lot is cost with such a fine lot of men. I have a letter from it. Henroat this morning in which he tells me some of the interesting things that have been happening of late. I recent take hear cose good news concerning your moor recent takes.

We have had two or three days respite from sero weather. Snow, or to speak more correctly, i.e., is melting on the streets, and if the present mild weather conting on the streets, and if the present mild weather conting a consumment on to be dovotedly without and the street pleasure to learn that you are having such find balmy weather, and I as sure you will all appreciate your good luck.

With kindest regards to yourself and all the boys, I remain.

Sincerely yours,

WHilleasowerfy

A/4657.

Pob. 13,1918.

Mallor: Line, Pier 58, North River, New York, N.Y.

Gentlemen:

to are conding down by your storier to Ir.
Edison at Key west, seven berrels of plactor of paris
for his use in Government experiments. The berrels
are additioned:

s. C. Varner, c/o Commandant, U. S. Haval Station, Key Wost, Fla.

Mr. warner is one of Mr. Edison's assistants, and we shall be obliged if you will kindly forward those barrols at once.

Yours vory truly,

Assistant to Mr. Edison.

../4654.

WESTERN UNION TELEGRAM

GEORGE W. E. AYKINS, VIC	E-PREMORNY . NEWCOMB C	ARLTON, PRESIDENT	BELVIOERE BRODKS, VICE-PRESIDENT	
RECEIVER'S No.	TIME FILED	CHECK		
		New Yor	k, H.Y., Feb.13, 1916.	
SEND the following To on back hereof, which	legram, subject to the terms h are hereby agreed to			
То	Thos. A. Edison,			
		1 Station.		
		v West. Fla.		
	· _ and	y nobe, rice.		
		Bus	iness houses closed	
	Monday and yesterd Will ship cable to aircraft cable.	av. Have seen	Rooblings this morning. er 49 wires very strong	
		Lieadoweroft.		
	(sent from N.Y.)			
SENDER'S ADDRESS		SENC	ER'S TELE-	

## WESTERN UNION NIGHT LETTER

RECEIVED AT

180NY H 23 NL

FT MYERS FLO FEB 14-18

WALL MEADOWCROFT

EDISON LABORATORY ORANGE NJ

SHIP AT ONCE BY PARCELPOST ONE VOLT METER SAME AS ONE ON THE PANEL THAT MR LANGLEY MADE FOR CHARGING

LAUNCH BACK CONNECTED.

The Madewersh -

Morton Cle Instrument Cor Manchesta, Com. Toph H. Voltonete 150 Scale

The Green Boundary States of the State of th

Form 120)
ASS OF SERVICE SYMBOL
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RECEIVED AT 238 MAIN ST. 168NY GC PRANCE, N. J.

KEY WEST FLO FEB 15 1918

WM H MEADOWCROFT

EDISON LAB ORANGE NJ

I THINK DEANS ON AEROPLANE EXPERIMENT SHOULD COME TO KEY WEST WITH HIS APPARATUS IF HE HAS ONE GOOD ASSISTANT BRING HIM ANSWER WHEN HE CAN COME

EDISON

1036PM

Jelegram Feb. 16, 1918 Thomas a. Edwan

M. S. Navad Station

Key West, Ha.

Deans can leave in iveck or
len days. Maining for hew appendix
being made in shop.

M. W. V 16 15

But of Wall

care Commandant,

. February 16, 1918.

Horton Electrical Instrument Co., Hamchostor, Com.

Gentlemen:

I bog to confirm the following telegrem sout to you this morning:

"Flaams thip by Parcal Fost insured one Type II Voltuster, 150 Scale to Thomas A. Beison, Port Lyers, Flordio, Confirming order follows.

Thomas A. Edison"

Trusting this has had your prompt attention.

Yours very truly,

Assistant to lir. Edison.

養 <u>Jelegram</u> Feb\_18/j₁8

Tho! a. Edison % Commandant,

U.S. naval Station Key West, Ha.

Deans has no assistant. you get one down there shale we hunt around. Sent W. 11. 18/18 Meadoweight attending to Klipstein matter.

February 18,1916.

Commandant, U. S. Beval Station, Now West, Fla.

· My dear Sir:-

I have cont you the following telegram

this day, namely:

"""Service subjects of material have been under defended to 5.0. Warner of their your care or in care 5.5. Second marked with letter 5 in otrels or demond miles letter 5 in otrels or demond. The control was not care for the first of the first of their care who are followed that their materials of the first of their care of

Horesith I hand you bill of lading for sovon berrole sont down by the Lallory Steeaschip on the lith instant. There will be other natural besides

this. in additional chimments.

Yours very truly,

Assistant to Er. Edison.

. / . . . . .

Enclosuro.

Feb, 18,1918.

Er. E. C. Elipstoin, c/o A. Elipstoin & Co., 654 Groomich Street, New York, H.Y.

Door Mr. Klipstoin:

till you mlease deliver to bourer, the one-pound cample of feet dye for cotten khaki uniforms. together with full instructions, as ver our telephone conversation this mornins. I will send came down to Hr. Edison at once.

Yours very truly,

Assistant to Mr. Edison.

## THE SECRETARY OF THE NAVY.

February 18, 1918.

My dear Mr. Edison:

I have your letter of the 10th instant.
I am very glad that you find the conditions at Key
West favorable for experimenting. I agree with
you fully in the absolute necessity for training
and training and training. I thank you for the
suggestion that we send other boats down for training and I will take it up at once.

With sentiments of esteem and high re-

gard,

Sincerely yours,

4 . . 08

Mr. Thomas A. Edison, o/o Maval Station, Key West, Florida.

## THE SECRETARY OF THE NAVY.

February 18, 1918.

My dear Mr. Edison:

I am in receipt of your two letters of February 11th, telling about the plan which you have devised for taking carge beats out of harbors which are liable to be mined by submarine mine layers, and your experiments for turning carge beats quickly by means of a kite radder. We are very much interested in these experiments.

Sincerely yours,

Mr. Thomas A. Edison, c/o Naval Station, Key West, Florida. ADDRESS REPLY TO THE SECRETARY OF THE NAVY AND REFER TO INITIALS

2975 -26:/01 0p-35-0 NAVY DEPARTMENT NSB

WASHINGTON

19 Fobruary, 1918.

Mr. Thos. A. Edison, U.S. Haval Station, Key West, Fla.

My Doar Mr. Edison:

Your two letters of 11 February 1918 have been received, and thank you very much for informing me in regard to your work at key West.

I am awaiting with interest a further report of your experiments with the kite rudders. A device which could be used quickly and will permit a ship to turn rapidly will undoubtedly be of great walke.

The mining division of the floot have been carrying out numerous exercises in mine everying and "mine searching". The last named is somewhat similar to the work you have inaugurated at Key Wost, but a larger wire oallo was employed.

Referring to your suggestion in regard to sending additional submarine chaser to Key West. I have the pleasure to inform you that several more will be sent south as soon as it is possible to outfit and commission them.

I assure you, Mr. Edison, that your work for the Nevy is greatly appreciated, and the information in regard to your plans and experiments is received by me with great interest.

Sincerely yours,

Ju<u>s</u>

Josephun Barriel

8/

7

A. HLIPSTEIN, PREST.

ALLORGER, ARE ACCEPTED SHALKET TO GELARS OCCURIONED OF ACCESSION, TRIVIAE, INTEL OR CLUSTES STYPNIS ONE CONTROL. THE STATEMENT EXPECTION, CONTRIBUTE AND EXPERIENT TO LIMME WITHOUT ROTHER, AND FACE FOR FRONTY ACCESTANCE. PRICES GURDLES, HEALETT TO ANY TAN WHICH HAVE EXTRACTED.

E. C. KLIPSTEIN, TREM CODES UNEO 25 5:41 1917.

CABLE ADDRESS! KLIPSTEIN.NEWYORK

REPRESENTED IN CANADA DE LIPSTEIN & COMPANY, LIMITED MONTREAL, 12 ST PETER SE

ESTABLISHED 1872

A.Klipstein & Company ANILINES, DYE STUFFS, CHEMICALS

AND TANNING MATERIALS. MAIN OFFICE:



NEW YORK February 19,1918.

Mr. William H. Meadowcroft, Laboratory of Thomas A. Edison, Orange, B.J.

Dear Mr. Meadowcroft,

I have handed the bearer of your letter of the 18th instant a product and dyed sample of FAST KHAKI, together with directions for using, and I shall be glad if they will be of use to Mr. Edison.

> Yours very truly, CKCifstein pers.

ECK/ECW.

ADDRESS REPLY TO ECRETARY OF THE NAVY AND REFER TO INITIALS

Sir:

### NAVY DEPARTMENT

Op-14-A-D 2/18 10 28905-820 WASHINGTON

LEH 5.0 1918 N. C.

Referring to your letter of February 11, 1918 the Commandant of the Sixth Naval District has been instructed to make such disposition of the REFOSO II, S.P. 198 as may be necessary to meet your requirements and to advise you accordingly.

Very respectively,

Communical Homes

Secretary of the Navy.

Mr. Thos. A. Edison, U.S. Naval Station, Key West, Fla.

Refer to file 38114-22

HEADQUARTERS, SIXTH NAVAL DISTRICT. Charlestor, S. .. February 23rd 1918.

Commandant, From: To:

Commanding Officer, U. S. S. Reposo II S. P. 198 Copies 2 to Operations. Cops 1 to Section Commander Jacksonville Fla.

Subject:

Orders.

Operations letter Op 14-A-D 2/18 28905-830 of Feb 19 1918 (b) Orders of Jänuary 9 1918 Comdt. Reference: to Repose.

1. Your orders are so far modified that you will consider the REPOSO II as temporarily detached from duty in the Sixth Naval District; and you will place the REPOSO II at the disposal of Mr. Thomas A. Edison, and operate her in compliance with his desires and orders.

/A A. F. Rogers Acting.

Ist Endorsement, ----

U. S. S. "REPOSO II" S. P. 198. Naval Station, Key West, Fla. February 25th 1918.

Received, this date.

(S) W. S. Harris

(S) W. S. Marris
U. S. S. "Repose II" S. P. 198.
Naval Station, Key Roet, Fla.
February 26th 1918.

Reported in accordance with above orders.

(S) Thomas A. Edison.

If considering to arrive conflict of order. Will for anony to have the "M. S. B. Repore" med. WP 198 which have been placed at my disposal for experiment have detached from the light Rand district temporarily and ordered to speak on detached temporarily and ordered to speak on detached duty made my order. Copy with say 5.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PREHIDENT,
PETER COOPER HEWITT,
VICE PARENTS
WILLIAM L. SAUNDES
CHARMAM.
THOMAS ROBINS,
ECCETARY.

OPPIOR OF THE SECRETARY 13 PARK ROW, NEW YORK

FEB 20 10ta

To the Members of the Naval Consulting Board, Dear Sirs:

Please be advised that the most meeting of the Naval Consulting Beard will be held on MAR 2-1918 in the Carnegic Institution, Washington, D. C.

The preliminary meeting begins at nine o'clock, and the formal meeting us ten.

Vory truly yours, THOMAS ROBINS

Secretary.

By Clar Viscour.

February 23, 1918.

Honorable Josephus Deniels, Secretary of the Mavy, Washington, D. C.

My dear Ar. Secretary:

I have been experimenting on Lammehing collision mats to sorte energy best sorter emphosion of torpode. We can do it that one can be a supported by the control of the cont

So far the kite rudder works fine; I am making several so as to tost on the DOLPHIN when she returns.

With the towed 'phone, the kite rudders and collision mats, we should increase the difficulties of the Germans in sinking our boats.

Those are all attachments that cost little, require no change in ships and are easily operated.

Very truly yours,

Most de l'any
My tran Ma Sentry:

No 54 - I have vern

Experimenting an faunching
Collision Mals to save cargo

boats of a Explosion of tax parto

we can do it with, 12 sounds

y cur boulding recipi model

of Cargo boat sentro: on a

Arcingue 10 Collision mais au

Each order of boat Errole mat

40 it long at 35 ft, deep rolled

up one of colision both pipe, any
one of colision both pipe, and
one of colision both pipe.

talked up+ places are to 62 15 ft away from sedes of Coat when not unever affect any of Thom. 4- They will Emant interfere with about hing or with Launching affile requilar deforterily Zuns occupiised to Know that all The officers have are unanimous in Eliconia This ochome well work So far Kitz rudder works fine I am making several

3

whom she cutions.

Will his toward there, The Kite rudders and collision. mile the should should increase the differenties of aux of the Germans in sinking oder boats.

These over all affectments cost little require no change in whips to daily " green early "

Key tinty yours,

Henressent Hand of the Market Market and drown and Market Market Learn senson may favorable was beg Reformed Mark for Market March Mark for Market March Mar

Hhat cloud that \$ 250. + 50 Records I could you to have marcoll ship me via Magadine Vivient To present I common and Line Vivient To present I common and the LEASED SINK TO LEGRAL

8. S. Kaval Station, Zoy Seat, Ma., Feb. 23, 1918.

Butler, Chief Clork General Board, Savy Amer, Seshington, D. C. (For Honorable Edward H. Hurley, Chairean Shipping seard.)

which on he must need to retriging out from tobtic to invune returning of the mugar period Thore once as overal refinence of and nors are unfounce which have force are associal refinence of and nors are unfounce which have forced to return the normal needs of the refinence period to the refinence period to an expension of the refinence period to an expension of the refinence period to an expension of the refinence of the refinence period to an expension of the refinence of the

Thomas A. Edison

PLAIS ESGLISH

Might Letter Febry 23, 1918

Thes a Edwen

Key West, Ha. Electrical Testing Laboratories ask how long you want to Keep IN. Little . They would him in How York if possible by Sunday march second in connection with some important.

- testo affecting legislation at Albany Can you get through with him to allow for this.

Fob. ..3,1913.

Mr. Aaron Hill,

Loc Angoles, Cal.

Door Fr. Hill:

I forwarded your letter of the 9th inct. to it. Edico. and he is vory fled to learn that you have received requests for additional data from representatives of the Emergency Fleet Corporation.

he suppose you conditioned to tribe to you to car that the suppose you conditioned a entalogue and description to The Soury Ford at Debuth. Place address this to The J. G. Liobold, Consend Secretary to In- House for Johnson Laborate, Linder, and Lill write to June 1 House that It is confine no that he can look out for it and bring it to The Ford's actionality.

Yours very truly,

Assirtant to .ir. Editon.

A/4713.

February 25, 1918.

Lly dear Lir. Edison,-

The HenCord's letter of Tebruary 20 requesting a copy of "Lindbook of Mine Sweeping with mitter Lite" recorded this morning. I immediately got in touch with Capitin Helboy and conclose "Mine Sweeping Exmul", which as the latest edition, typears to be the publication you want and I hope it will be of use to you.

I sew Colonel Milliern sowerel drys ago end he seems to be vory much plessed with the outlook of the work myon which he is engaged. He is at New London today Nor: moeting of the Subarrine Board, of which Dr. Whitney is also a member. When his return I shall cell on him to get a line on any new dureloments and report them to you.

Yours sinceroly,

Jani Butter

Mr. Thomas 1. Edison, c/o Commandant Mayal Station, Key West, Fla.

Good message instructing me to forward message to her I durley secured. It has been put on the wine to keen.
Buther.

Feb. 26/18 Meadocraft. Thease ask langley to rewind two - Regular Bel phone's so that The total Reventance is 400 chairs united of the Liegulas go chuis bult I want them w 4 socious of wire unscord of one rection ou now -But I want the same news of twing in Each scation Edel section to have it

Ends go to separate building posts.

Do as to enable me To connect all in series or all in Mulleple aric, at to send consolvent of the send Cours showing how they series a for series a Mulleple — Thes for for Expens a Sport Expent wend by Expens

Bath ophones to be alike-(Ison
Feloy 26/1918) Ky West Fla. 26, 1918.

My dear Mr. Meadowarpt.

Mr. Edison direct me to ask for to acuse him these tooks.

Very truly yours,

Charles B. Wampun.

4964)

The Atlantic Monthly Advertiser

ATLANTIC WAR BOOKS
SHOCK AT THE FRONT
BY WILLIAM T. FORTER, M.D.

D. Peters were abound by the Roddeller Foundition to incerdigue the came and treatment of shock. His neach had through many interesting absences on all other virial peters are should be the Roddeller Foundition to incerdigue the came and the treatment of shock. His neach had through many interesting absences on all other virial peters are shocked to the results of the resu



### WILLIAM LOVATT

The Lovatt Piston Packing Rings

Mr. H. H. Macadonic of The Macadonic of The Macadonic of The Residence of T

Jeveral Boat Boom,

markingler, D. b. Dear der hourn y indeavours to locate Mr This El.

all my indeavours to locate Mr this Edison last Jan 1914 before the war Stortet and Lo many thip where being Lunk invented a solm crine Destroyer i Sent it to Secretary daniels and it was in doo time it was grund to Mr Edison for i got a letter from his board stating that it was under their for sed ration and that a should how from them more having not heard any Thing from them when me Eddon was in Greenfort in Sont the letter to me Edison by his took haller That was one board the bootex with me Edison asking Mr Edison to look at the letter So i could get the letter book for the letter have my Corresponding number Since there i Commot locate our Edison and i want my letter Do if you cand do me a favour by getting one my letter i Shall be thankfull for if my derice had been on them insegers when

in the and account ducinana the under have Cought the Submerines for the the tela Scope arangments for gauging your little work your bomb attatchments on your Block & fall your grapples would before hore broked in your Dechmerine and your bornt would done the Rest me Robbins Laze that Their is from hims that are making something the same as my liver wall you be Kind Everagh to let me Know when They went in there applacation orine was went to my lands 12. Monthin ago Cast fand long before the was starket. They are making a machine on The Same principle as Mum as Demisone given may do use and thrown we down when a Sent my device to my Manilla a State tum i would give on get him a bet of Maning you bee it was around april when i got 1mg letter from "111-Edison Broard Daying as i should hear from There and now this to morth and how not hard nighting with you Heart to give this note to night here the second of the s went back to one now i am only asking my Regists i remain jours very

> WM. LOVATT, 216 Broad St. Greenport, L. I., N. Y.

DESPATCH.

\_\_\_\_

NAVY DEPARTMENT,

WASHINGTON.

-----February 27; ...., 19b.

Thomas A. Edison, Naval Station, Key West, Florida.

Delivered copy of mossage to Herbert Hoover personally who read th with interest and will refer to his sugar men period Mr. Hurley returned this atternoon and I delivered copy to him in person period He had received relayed message this morning period is much interested and will probably send men to investigate and confer with you period Eurley will communicate with you direct period

JARVIS BUTLER

Received
Forwarded (thus) 8. (Smaller) (Smaller)
(Chanker) (Chanker) (Chanker) (Chanker)
(CONFERMATION TO ADDRESSEE)

CEJ

February 28, 1918.

Mr. Thomas A. Edison, Haval Station, Key West, Fla.

ly dear Mr. Edison:

Colomb 1311iten came in the office tweeday afternoon and gave me a very interesting account of the developments of the work he is engaged upon thich I cm swe you will be interested in and when an opportunity affords I will write or tell you in person as much as I could grass as a layen. Done of the writening commence the with he as he may be a layen. Done of the writening commence that with he as the state of tell trendry about it for your information, I enthered that he preferred I should not make a written report on the subject it invite to do with now types of wines rarticularly the magnetic time, this more lawing been done for the Channes o Begraham tend for the channes of Begraham tend for an agreed with you that the magnetic first of the work having the subject is type is not useful for some purposes but developments are my orgenting which will be advantageous.

Several visual signal apparatus have been developed with which they are highly pleased. I am keeping memorands of the conversations with Colonel Milliam which may be of interest to you when you return or earlier should your work approach these lines.

As I wired you resterday a called on Food Director Hoover and handed him a copy of your Eurley telegrem of February E3rd which he said he would refer to the men handling the sugar question.

I had been on ir. Purley's trail and tust often seeing ir. Leave learned of his return to maintree and wort down and delivered final relation to the return to the seed of the

I did not have time, or rather, ir, hurley did not have time for me to make any comments on your telegram can dit roud not have been appropriate for me to do so anyway. In case his order which was given to send a men down should be intercepted it will be because the heart or some subterdint to assumes the conclusion that permit insurance on sugar cargoes.

If an investigation is <u>not</u> made by the Shipping Board as you suggest, for this reason, and you know these bottoms <u>are</u> capable of being used as you suggest. I hope you will bring it to Mr. Hurley's attention again or authorize me to do so.

The Ship Protection Committee, of which Commissioner Donald of the Shipping Board is Chairman, is hard at work and a Sub-Committee, of which Admired Winterhalter of the General Board is Sentor Lomber, is also engaged on the question. Your letter to ir. Would be very interesting to that committee. It may be that the Secretary of the Many will be very interesting to that committee. It may be that the Secretary of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Control of the Many will be sent to Commissioner Donald Commissioner Donald Commissioner Commi

The weather here has been delightful this week and I hope that it is a sign of an early spring. We will all be very glad to welcome you back here again when you decide to return,

With kindest regards.

Venna sine onels

win Butler

Myork Represended any action defount my phonograph Works under Thornau law until April 15 Oh Count decision 9 inemediately mailed notice to all my dealers abragating all Contracts sous comply with the decision but there Contracts sequered Th days noticed so

homes I make the well be so scriens me that Ywhall

Naval Consulting Board and Related Wartime Research Papers Correspondence March 1918

March 1,1918.

The Atlantic Monthly Press,

Boston, Hass.

Jentlomon:

Will you Mindly send to me at the above address, the three following books advertised by you in The Atlantic Monthly Advertiser:

"Shock at the Front" by filliam 7. Porto: , H.D.

"Hoadquarters Nights" by Vernon Nellogs.

"The ar and the Spirit of Yoush".
by Haurice Barros.
Anno C.E.Allingon.
Sir Francis Yourshadend.

and make bill for same arainst Thos. A. Edison.

Please be super to have the books addressed to me and not to Mr. Edison.

. Yours very truly,

Assistant to Mr. Edison.

4/4764.

# THE SECRETARY OF THE NAVY.

March 1, 1918.

My dear Mr. Edison:

I have been thinking a good deal of late about the quantum of a laboratory. This has been brought prominently to me of the laboratory. The laboratory is the laboratory of the laboratory is a laboratory in laboratory in laboratory in laboratory should be made at once in Washington.

As I understand it, your views are that a try-out station or shop is needed in the lawy for quick production and that liew York is the best market for labor and material in such an establishment. In this I agree with you, but what seems to me to be rather urgent just now in that we should have an office down mear the river may be able to the have an office down mear the river may for your primental and research work. This would be useful in trying out some of the devices and suggestions made to the Havy Department.

As we have the Bureau of Standards and the Bureau of lines here and the Indian Head Works I feel that right here under our noses we might do a great deal of useful work during the war, and possibly affect the war the question of a manufacturing establishment might be decided of their as an exemsistent of the control of the control of the control of the support of the control of the control of the control of the control anomalogue also decidency or as an independent plant located

The members of the Heval Consulting Board are pressing me from time to time to do semething. They say that there is a dire necessity that more action be taken and some place be provided at an early date. I have hesitated because I want your full co-operation in everything done in this mester, and I am writing the property of the second of the second

I look upon this as a very important and a very urgent matter and I shall await your favorable reply with interest.

Sincerely yours,

gions . . . thouse of

Mr. Thomas A. Edison, Key West, Florida.

### UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION

WASHINGTON

March 2, 1918.

Mr. Wm. H. Meadoworoft. Assistant to Er. Edison, Edison Laboratory, Orange, Hew Jersey.

Dear Mr. Meadowcroft:

Thank you for your letter of the 28th ult. We will communicate with Mr. Mallory very shortly as he no doubt has information of value to us.

In our investigation of collular aggregates, we propose to include tests of concrete cylinders made up with the metal tubes similar to the ones used in the Edison battery. It is necessary, however, to eliminate the perforations and use heavier gauge metal.

May we call upon you later for a small quantity of this material for our tests?

Very truly yours,

Concrete Engineer, Department of Concrete Ship Construction.

4793) My West Fla 3/3.18 Mr We N. Meadower of s. Orange n. J. my Dear m Meadowcroft. your favor 27, the neuvale anclosing a bill from the Western Electre Go. I am oking this bill as I know we got the meteral. I ordered and record it, but have never sum a bill for it. please ask the w. 6.60 mm looted to see that the prin of 37 % is comed for "I Pair of head receivers" \$3750," this looks high matters him going along slow but think We are accomplishing quite a little. Moon is about the word row, to dawn continuplable to describe in the English language. He has not good succe. Les les all including mr.E. think he is off" under the hat. Still he has the Curning ability to decive non. E. and disorganize the whole crowd. all on the Repose 11 hate him and treat his acts with contempt. The Sachren is him with the same effect of disloyalty and Sworting as before to different from Captain Harris and Ordo of experienced gruthmany Searum. Mrs Mrs Edison notice the different so much Much. I have been so handiops so much to by having to handle such as

the above backum. Moore, Nauley of maley. no one but a bunch of incompitut distoyal, jealous. Rough neuter exception to this rule is Namis and nowd. Knewner. Where but a sund and how hope of him being the as he been to have a cliffied stock.

Burns has brew operated on and his hand is bandayed up Maring heir procedually neuters and he misses Naning.

Jain going to do they danwood to work the thing through not with their winnersong hanchesps.

The Batting few fund and books came in othe Ju facet every thing is him that Jordand.

The winnersong for fund and books came in othe Jufacet every thing is him that Jordand.

The winnerson of the misses of the forth of the surface of

March 4, 1918.

Henerable Jeeephus Daniels, Secretary of the Navy, Washington, D. C.

My dear Mr. Secretary:

In reply to yours of march lat regerding laboratory, permit me to say that my whole experience, covering a period of over fifty-two years also not adjated hours daily, in over fifty described the substance of basicous, is dead against the contraction to the contraction of the contraction of the contraction of the contraction. The very heart of such a laboratory is repliced construction, and there is no place in this country whore this can be done encoessfully except within can be our if journey of new York City, the carket from which everything can be esteined quickly.

There is no objection—and in fact it is the right thing to do—to having the executive and planning office at Smehington, which has the authority, the data and the money and where the plans could be all worked out. But the moment the blue printe are ready for reduction to a machine likehington would be office on the constructing shop to be there, where weeks would be wasted in getting material.

where is no enalogy between the Sureeu of Standards and Minister proposed laboratory is to build anything from a submrtie to a microscope and is not a research laboratory; it is a constructing laboratory-more properly a universal machine shop--whose specialty is repid construction by special tools and system of working.

of course the beard onn do what in their judgment they think beat, but they cannot expect me to agree to recommend what I firmly believe will be a failure to give repid production. I am so dear that I have selion attended meetings of this conculting beard and am so entirely out of touch with it that it seems to be a species that better disconnect and continue as tent and the selection of the better disconnect and seriosive men in my place.

Very truly yours,

71 5 Namu Statu Year laut Flor nem, 4, 1918 (Lobrettery) my cum Mr. Scontange In sceply to yours of Mach's regarden My whole experience covering an and of over 52 years 16 to 18 hours daily in over 50 deferent branches of busenies is dead agacent having a Constructing Laboratory at Ether Annapolis or coachington The very heart of such a laboratory to rapid construction and there is no place in this Country where this Can be done, Except within one hours journey of new york Citiq the market from which

2

quickles. There is no abjection or an fact to the right thing to don'to have the reffice at coachington, which has the centlearly the data the money whose the plans, are all worked out, But the moment the blue prints are ready for reduction to a maching Washington would be a disdator for the Constructing shap to se There where weeks worked be ward

## rattachment/enclosure)

Thomas no analogy between The Bureau of strandwoods on Ulmes The proposed Lakordony is to Guild anything from a Dubmanne to a Microscape or is not a research fatorator to a Constructing Laboratory - hoop more presporly a Universal machine shopwhere desire to Rapid Countration by special Lools a system of working Of contracted Cowid can do

what in Their medaper think best blet they con believe will Ito give to be a openies of Beach & Etter of ork direct and

from!

KEY WEST, FLA March of 1918.

My dem Mr. Meadow croft,

May Sack Heat you take can of this matter forms, please, by turning one my request to the proper parties.

I would like to have a tank of electrolyte for the Edwin storage Batteries. Those that were in my bratteries leaked out no I am sovely in mind of it. Measurails I shall make arrangements to borrow rome from him. Shapping.

Also will you kindly have the Iterage Battery mail me all the information (literature) on the Ideas Battery possible particularly in ray and to the Tippe B. A. and M cells. I think the promphleto they usually cend out with these tratteries will do but if they have anything stee — any other "dope" on the case

THE JEFFERSON

KEY WEST, FLA......191

ete of the bettery I should cutomily appleciate it. Please have them mail it ince in g the loommandant as I do not know how boug. I shall stay cot this apology for a botel. The weather his cutomily fue. The accomodations are very foor and prices are high in this town. I had a very enjoyable trip down, but will be glad to see the Cabratory again.

· With since thanks, I remain

Respectfully yours William Deans

ofo Commandant
U.S. Naved Station
Key West,
Thrida

with Mr. Edison.

Mar. 4, 1918

My dear M. Meadowerft.

I am enclosing a sketch
of a simple optical denie intuit
of theire can readily be obtained
from some new york dealer in
fitial instruments. Will you
knowly secure this and sund it
to me at ky Most? Mr. Edwar has
a solume for attending the week,
the us tent for morgation at night
the us tent for morgation at night
and me need their denic to make
an experiment.

cylindrical mirror of approximately
the dimensions shown mounted in
one sof of mounting which me com

adoft for our purpose.

Me are making salo factory progress fast which is demonstrated surces fully the ineit the sea ander our reducing the space necessary to term dido. We made the experiment on the N. I. Return a 900 ton gundont and succeeding in reducing be learning circle to 70% of normal. M. Edisin was rey pleased.

With bendut ugard, Temain with high pours

CLASS OF SERVICE	SYMBOL
Day Massage	
Day Letter	tive
Night Message	Nite
Night Latter	NL
If note of these thre appears elter the check of words) this loss day messe when its character is indic aymbol appearing ofter	oursber of se. Other- ated to the

238 MAIN ST. 1. 2NY GC 19

FT MYERS FLO 406PM MAR 5 1918

WM H MEADOWCROFT

CARE EDISON LABORATORY ORANGE

MAIL SPECTROSCOPE TO MR EDISON BY FIRST CLASS MAIL LOUIS OTT HAS IT

FRED OTT

614PM

RECEIVED AT 40NY H 43 NL

THOS A EDISON LABORATORY ORANGE NOTICE -

KEY WEST FLO MARCH 5-18

WM H MEADOWCROFT

OTHER FOLLOW.

SHARK GOT OUR MODEL MAKE AND SHIP US SOON AS POSSIBLE TWO COPPER MODELS SAME AS BEFORE LEAVE THE FINNS OFF I WILL PUT THEM ON HERE MAKE CABLE HOLE ONE . QUARTER INCH SOUTHERN EXPRESS SHIP ONE SOON AS COMPLETE LET

8 C SHAFFNER

1007AM MARCH 6

March 4,1910.

Er. E. Wells. Concrete Engineer, Dopentwant of Concrete Ship Construction, United States Shipping Board, Reshington, D.C.

Dear Mr. Wells:

instent, let no cry that I have no doubt that ir. Added not that I have no doubt that you that I have no doubt that you that I have sufficient of our metalling that you chall have sufficient of our metalling that you now to set depend on the sufficient of the sufficient on more a for day, not been not yout her much you would like to have.

You're very truly,

Assistant to Er. Edison.

A/4781.

Harch 5,1918.

Rear-admiral L. Strother Smith, U.S.H., Bavy Department, Lashington, D. C.

My door Admiral:

I onclose Edicon Laboratory bill, in duplicate, for experimental work at cost from December 5th, 1917 to January 31st, 1918, amounting to \$16,548,54.

Yours very truly,

assistant to Er. Edison.

Enclosures - 2.

March 5,1913.

don. Newton D. Baker, The Secretary of War, Luchington, D. C.

My doar Sir:-

I onelose Edison becoming bill, in duplicate, for experimental work at cost from Docember 5,1917 to January 31,1918, \$1,944.88. Yours very truly,

Assistant to dr. Edison.

Prolonno - 9

# THE SECRETARY OF THE NAVY.

5 March, 1918.

My dear Mr. Edison:

I have your letter explaining that you are experimenting on launching collision mats to save cargo boats after explosion of torpedo. I am looking forward with great interest to completion of these experiments.

Cordially yours,

Inexandimines

Thomas A. Edison, Esq., Naval Station, Key West, Fla.

### NAVAL CONSULTING BOARD

#### OF THE UNITED STATES

THOMAS A EDISON,
PETER COOPER HEWITT,
VICE PRESIDENT,
WILLIAM L. SAUNDERS,
THOMAS RODING CRETARY.

OFFICE OF THE CHAIRMAN

Mar.5,1918.

Thomas A.Elison, Esq., U.S. wavel Station, Key West, Fla.

Dear Mr.Eqison:-

Thenking you for your memorandum of February 21, two great difficulties stant in the way of applying any outside plaster to a mirodant ship, namely, reduction of speed and necessity for docking prior to its application.

The idea of using buoyancy boxes in free from these objections. People have turned down plans to make ships unsimbable occause the Titanio eart down and because there are numerous instances of ships sinking notwithstanding bulkhead constructions. Into first place, so far as the Titanio is constructions, into first place, so far as the Titanio is constructions. Into dispersally understood that she went iown conness prevision when not include bottom, and in many other cases I think outlineads life not save the snip bookuse there were not enough of them or occause the doors were not tight.

The Donnelly suggestion of outgandy doxes seems to me to be simply making a bulkheed likes a practical one and applying it to normal ships.

Instant of degeneing upon a small number of large units this system degener upon a large number of small units.

If the hold of a vessel is homey-coabed with air tight cells it is covious that the vessel cannot sink. This honey-comming will, however, take up too much cargo space, muco:

The Donnelly boxes are attached to the innor skin, bolted to the ribs and to the roof and other places in the oulk-

In the case of the Lucia only 14 per cent. of her maximum carrying expacity was taken up. The exact percentage depends upon the nature and construction of each ship and the kind of durgo she carries.

We must not forget, however, that cargo carrying capacity is being destroyed every day by the sinking of ships and

Thomas A. Edison, Esq., -2.

cargo.

It has been estimated that during the month of January enough grain went to the bottom to make 360,000 barrels of flour.

It has been estimated that one ship was sunk carrying enough bacon to feed thirty thousand people.

It has seen estimated that the commonic loss by submarines during the year 1917 was between three and four billion dollars.

It has been estimated that about two million tons of food ment down during the year 1917.

We have a limited number of ships. Until we build more those we have should be saved.

ships unsinkuble, but it might enable us to held our own white the cvil is destroyed, which, in my judgment, can nove coour until either the next is destroyed or the pathway bridged.

I trust that you are in good health and spirits and that I may have the pleasure of seeing you before very long.

Cordially yours,

WX James

# NAVAL CONSULTING BOARD OF THE UNITED STATES

THOMAS A. EDISON.
PRESENT.
PETER GOOPER HEWITT.
WIE PATHER
WILLIAM L. SAUNDERS.
CHAMMAN.
THOMAS ROBINS.

OPPICE OF THE SECRETARY 13 PARK ROW, NEW YORK

MAR 5 1918

To the Hembers of the Naval Consulting Board,

Dear Sirs:

Please be advised that the next meeting of the Naval Consulting Board will be held on MAR 16 1918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clock and the formal meeting at ten.

Very truly yours,
THOMAS ROBINS

Secretary.

y gues



RECEIVED AT /238 MAIN ST.
ORANGE, N. J.
145NY GC 30

KEY WEST FLO 131PM MAR 6 1918

WM H MEADOWCROFT

CARE T A EDISON ORANGE

PHONE DR JEWITT CHIEF ENGINEER WESTERN ELECTRIC COMPANY ASK HIM
IF THEY HAVE A NEW AND GOOD HEAD PHONE SET ADOPTED THROUGH OUR
AUDION IF SO MAIL TO COMPLETE SETS

S C SCHAFFNER 535PM Secretarial Service Department

Office of Secretary

FUNCTION: Leboratory

Memorandum No.

SUBJECT: Expense Accounts

Date March 6, 1918

TO:

Er. W. H. Knierim, C/o The Commandant, U. S. Haval Station, Key West, Florids.

Your letter of the 2nd has been received with various expense statements and checks are enclosed horosith.

As requested recently I with in the future, if you find it will not many he, Missan to be so, that you would have him 0. K the expense accounts before coming to me.

I have passed them into my files without this supreal feeling mer that they were correct as rendered by the mention of an amilt of the account it would be much better to have it. Missan so k, k on each account, if it, Missan so k, k on each account, if he, Missan so not object to figuring the accounts I should like to have the other boys secure his 0. K.

I me sending you a check on the Private funds of Hr. Editon for Syllat to core rependitures made for Hr. Editon's present account. Only account also you did not have 0. M'et by Hr. Editon. I trust you will have siniter socute 0. M'et by Min in the Viture. You state that Hr. Editon has given you GiOo. to expend for Min for personal trems amount, however, that the Will all the Min in the Viture. You state that Hr. Editon the Giorn of the William of Willia

While neither yourself nor Mr. Wolf has O. E'd the bill from the Hotel Powheten, from the fact that you have sunt it to me and referred to it in your latter I assume that it is correct and am sending them a check.

Your expanse accounts do not show the shop orders which should be charged and we are charging the amounts to chop order 5599. If this is not correct places of the same of the property of the two corrects places of the same of the same that the property of the property distribution of the accounts.

With kindest regards, I am

R. W. KELLOW

RWK/JL

Secretary

Copies to-

1583-3-50-1117

thethishiss Edison Sultant " From the Laboratory Thomas A. Edison, Orange, NJ; 11arch 7,1918.

> Mr. S. C. Shaffner, o/o Commandant, U. S. Naval Station,

J. S. Naval Station, Key West, Fla.

My dear Mr. Shaffner:

of the 3d instant enclosing the bill from the Western Electric Co., which you have O.K. 4d. I will turn it over to Mr. Kellow for payment if I find from Mr. Wold that the price is right for the pair of head receivers.

Yesterday I received your telegram acking us to make and ship as soon as possible two copper models the same as before, and send one down to you by Southern Express as soon as completed. There must be some shorts around your waters and they are on to your game. Ferhape you had better a tatch some hooks to the next let and put the fish-Bocke out of business.

I regret very much, indeed, to learn that you are having such a sorry experience in regard to the persons you show the sorry experience in regard to the persons you have the greatest faith in your ability to overcome these obstacles and to push things to a successful completion in spite of them all.

I am glad to learn that all your material has come to hand at last and shall hope to make your list entirely complete by sending you the two copper models at an early date.

With kind regards, I remain,

Sincerely yours,

D'HMeasowas fly
Assistant to Mr. Edison

4/4793.

March 7.1918.

Er. Arthur B. Cook, E. D. R. Houne, Hamilton, B.Y.

My doar Mr. Cooke:

ent that fir. Edicon to any from home und I do not expect that for the many from home und I do not expect that to return to, at least two mentals, as to whether or not he will be able to utilize your corvice at the absoratory that Summer is more than anyone can tell at this time. Just not is each down South with all our experimentary and probably will not return for at least two mouths.

I would suggest that you write me again soy the first or second need of way and nee how matters stand then.

Lith kind rowards, I romain,

Yours sincerely,

Assistant to Mr. Mdison.

. 14790

## [ATTACHMENT/ENCLOSURE]

My dia No. Meadoweagh:
My dia No. Meadoweagh:
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be a bit leady but last this
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#### [ATTACHMENT/ENCLOSURE]

you Samilianly, my address is simply Hamilton. Simuly your Details n. look.

deaft I have been carrying This year and so would probably or able to do more than East summer I have a friend who would like to work at the laboratory if The was an opening It is also a muitiful student and is a Consciutions worker. Could you let me know soon Tif the is a Chance for us & wish at the fabrical than securior. I am sure that you will remember me from lust year so I am taking The Silvery of addressing

PLEASE REPLY TO SALES DEPARTMENT PATTON PAINT COMPANY

PATTON'S SUN-PROOF PAINTS MADE IN U. 8, A. NEWARK, NEW JERSEY. CABLE ADDRESS.
"SUNPROOF"

WESTERN UNION CODES: LIEBERS A B.C. 4TH & STH ED.

March 8th 1918

Thomas A. Edison, Inc.,

West Orange, N. J.

Dear Sir:-

Under date of February 9th we received your telegram through Mr. Headoweroft, asking for samples of the Fire Proof Paint we furnished you in the past for your Silver Lake plant to be sent to you, c/o of the Commandant, U. S. Maval Station, Key West, Florida.

We sent those samples on that date, and not having heard since that time, we are taking the liborty of asking if the samples were received, and if you had an opportunity to make tests of them at that time.

Appreciating your advices, we are,

Yours truly.

aa Buckly

(4879)

Special world Alphan Deceiner Disparent Dispar

Mr Edison phones are giving

The 2 phones tosay 
By express tosay 
New rower \$5

3/9/18

S. G. Langley 3 - 6-18

March 9,1918.

Er. L. H. Kniorim. Ecy West, Fla.

My doar Mr. Zniomin;

4th instant, asking for a cylindrical mirror mounted on a piece of brome, to a cylindrical mirror mounted on a piece of brome, to add to cond a cam to Hee York and have his hant upon the mounted on the his hant when the history made, the property of these mirror made. I have had mounted on brose and two I am conduct reparatoly. They are all going down to you by mail, Sectial Delivery, they are all going down to you by mail, Sectial Delivery, though I man going to upil them up in two peckers, so as to avoid the lone of all, and hope you receive them in good condition prometly.

with kindost regards I remain,

Yours einceroly.

A/4816:

#### U. S. NAVAL STATION KEY WEST, FLA.

Mr. R. W. Kellow- Key West. Mar. 9 1918

Wh. R. M. Kellow Edisin Juloratours Crange M. J.

My dem Mr. Kellow

Containing the extense shocks, Facility among in future to how Mr. Estim at all expense accounts, With equal to jet, numbers can advice that all extensions for a string on advice that all extensions from home on the meeting with Mr. Estima fersenal rank on Paral matter, with Mr. Estima fersenal rank on Paral matter, with Mr. Mordon of the some as the one to which Mr. Mordon of the some as the one to which Mr. Mordon of the some as the one to which they in Martington, I have not been informed of the number by when you enough it does not not made in your allest of Man 6, 1918, thursday inform me if there is correct.

There and in your allest Mr. 6, 1918, thursday inform me if there is correct.

There are driven Man 9, 1918, through and audionary when 9, 1918, through and audionary

Yey truly yours

Month of 1918.

Mi Edison.

Sis. Simile foring about my Avant boday. I had an Idea Corne unto my kead which I will eaplain hele to your having med a let about your wonderful Soventions. I Could send to so well as you working woman fand a mother and I think it shows the women so well as the men to by to so amethy to end this to the men to by to so amethy to end this timber war. or to the men to by to so amethy to the men to the timber to the work of the men to by to so amethy to end this timber war. or to help to by it my older is my ford and you can war if in any way I shall be glad for you the so I do not

front any money for it, but if on the other thank and you fail to a form was what was a country take to be the sample take no bortice of this letter; my Edea is thus. I have to be a worderfull brownton of Wireless Telegraphy. Sending messages through the air luthout seeing or hearing, now why. Could then not be a mathine mounted that Could be faced to the form and of the form of the a ship, or come in front by a ship, or come in front by a ship, with Commeting would mainly write the series, that placed under

water to a certain depth and another machine connected

above that would give warming of any thing cornering within say a quarter or half a mile farther if possible. The machine blove , So Induale the direction it was comeding in Ey M. S. E. W., Compas. then The ship could probably. shoot dynamile into that direction Bringing the article 25 the surface all alid Lubonarioles to send up a. Certain Code notice that they were allied . Lubonarines on Light of the Vissell failing this . notice for the vessell to dynamile Them . This machine to be. uned water placed where ever

it could get the best sounds to photograph if persible, early then are some people with trains that could invest such a machine if I had bearing enough organic of think of world by by to the have no capital other by by to had the trains funding from can make use of this blace of comments.

My char Mr Meadow or oft

Orange

My char Mr Meadow or oft

Please Are Eupres four

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Burgoli - About 5 las of

Burgoli - Wall 1/2 sypr yand of

brat Sheet oubton 1/32 thech and

not look than 6" Wich with this

rubber get 1/2 Pt of biet woulcou-

gam or Cruent. I would to Maker up some tubes &" long 2" diameter

work serves to be getting along facily will my Edison looks as much better gitting fax.

Stellesfun

annual bon to the White 4 14 cars. Manufaction ban to SH Lat SI toursion . B.F. Booksel 22 new lag god 1/42" ruller 6 unde Georges Beatle Alone 2002 Meshed is 901 Band Munor Ruther to 841 Brend

Meadocraft hothers 3 /11/1914 de Mitner who worked for as exporting on Thone 4 haus him get 20 contractor Cowing things of send down here 60 Expecso. 20 ( Beston Koe Contemore 12 assorted induction coils made by Bunnet Tray are covered with rubba the printing of the aspertulated from secondary - Send the highest revertances Lourest yearstries + 10 intermediate Residences of Scapidary Coil 9the same ad to premary coil - will These I can make a high resistance Romany + low tes scendby +vice versa + other Combinations. I pass sout 40 of these cails made by Thursel The Condenses our about 15" long 21/2" wide or 3/4" theyel if I recensive right, also Tahould like to have 12 lb of No 36 double covered sick were so I can wind an induction Coil here who I lbs 2. col of NO 18+20 double Cettor covered while for 2 dum primaries,

Murch 11,1913.

Patton Paint Company.

Contlowen: Attention Sr. A.A. Buckley:

instant, I hope to see that I have heard from any most to the offset that the beard from the thousand the control of the the thousand the control of the control of the control of the first Station, who is now constituting with the came. I believe they are also expensely entire the came. I believe they are also expensely entire the came, and it would not be surprised from the control of the con

Yours vory truly,

Assistant to Mr. Edison.

A/4829.

March 11,1918.

Mr. Billiom Doans, c/o Cormandant, G. S. Havel Station, Noy West, Fla.

Doar Hr. Doans: . ...

I have received your favor of the 4th instant, and am glad to hear that you have had an enjoyable to je down and have arrived at way best angely.

if have taken the matters you have written about up with our Stonero Bettery people, and no doubt by this time you have received several pamphloic on the Edicon Battery.

to be cent down to you, and this will leave Her York temerren by may of the Hellary Line steemer for Noy Lest, and home it arrives in good condition.

with kind regards, I remain,

Yours very truly,

Accietant to Er. Edison.

Key WENT 7. Pa 3/1, -18

Mr We H Meadoworoft.
Orange N.J.
My dear Mr.

My dear Mr Meadoworoft Phase ask Dr Jewill or Mr Wold to Make us up 6 hand phours. We want thise phones to be used to generate the maximum terment Elithal Energy from the Probration of its diaphram. What I have in mind is two of them wound with the quatret number of turns which would give 200 others. 2 of three would with the greatest number of turns to give 350 theus and two to give 500 shues, and oak three to insulate the coils and the terminals with oiled linen in the place of red fibre. ask them to rush the 6 phone. the head pleases you sout I don't believe an the Patrat ones they have turned out. Dr Papin told me the W.E. Go have recently developed a very frier please that is want I want if possible seams of blackopen



2NY H 89 NL

KEY WEST FLO MARCH 13-18

WM H MEADOW CROFT

CARE THOS A EDISON LAB ORANGE NJ

MAIL AT ONCE SIX FIVE HUNDRED OHMS BELL RECEIVERS ASK THE WESTERN ELECTRIC CO TO USE VARNISHED LINEN IN PLACE OF RED FIBRE.

8 C SCHAFFNER

7AM MARCH 14

March 13th, 1918.

Mr. Thomas A. Edison,

Report on Order #5013: -

After determining the best arrangement of coils for the use of the amplifier under the condition that obtain with the Range Finder, we secured the necessary apparatus and equipped all three etations with complifiers.

Introduction of the amplifier has greatly increased the difficulties determining the exact starting point of the shot. Even comparatively light local noises are amplified to such an extent as to make a pronounced record and the vibrations of the horn by the force of the wind will produce a record difficult to distinguish from that of the shot.

The wind valocities have been exceptionally severe lately in fact, in composes the teners with two considered sourcely canched were bloom over hat we believe we have token care of this by re-inforcing the towers mounting the transmitter in a cound insulated box close to the ground and conducting the sound from the horn to the transmitter by means of rubber tubing (garden hose).

When we have been able to got records that we could read satisfactorily we obtain as great a degree of accuracy as was reached without the amplifier and of course over a greater distance as indicated by the following three records we have just made:

#### SOURCE OF SOURD AT 15,900 FEET.

#### RASE LINE - 2400 Feet.

SHOT NO.	NO. OF FEET.	PER CENT ERROR.
#1 2 3	15.369 15.623 16.688	mimus 3.3% " 1.7 plus 4.9
Average -	15.893	minus +1%

The distance here of the source of sound was not specially surveyed by us but was very carefully located from Government survey.

With our saluting camon at 15,900 feet from our observing station, the sound of the chot is just barely andible to the sex, and therefore any local noises such as a motor car passing on the red, a deg batching, or even the carring of a cover near the horn many have a greater cound energy and make a deeper record than the sound we wish to observe.

It might be that we could select our cound to a sufficient extent so that it would be emphasized on the record by using both mechanical and sloctrical tuning. This however would probably be difficult to carry out on a practical could.

As it is easier for the average person to recognize by ear a particular count than it at clear to recognize the main characteristics in a grant count than it at the same it might be possible to condition some method exist the format of the record on our reading meanine. It she observer the record could lietem to it and stop the machine has been record could lietem to it and stop the machine has to locate it quite quickly waker countitions and the same that the conditions are considered as the same that the conditions are considered for where it would take a very much longer time to make the observation.

We are continuing our experiments at the "Range" using different horns and transmitter adjustments so as to eliminate the effect of local noises as much se possible.

H. H. Holland.

ET

COPY

From Commodore Gaunt, R.H. British Haval Attache, 681 - 5th Ave., H.Y.C.

Phone Plaza 9417

13 Marh, 1918.

Dear Mr. Edison:

You will remember that you gave us photographs of a Double-Trumpet Sound-Locating Apparatus to forward to the Board of Invention and Research.

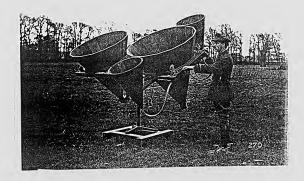
I enclose herewith photographs of two patterns of four-trumpet apparatus for locating aircraft in altitude and azimuth.

In one pattern the azimuth trumpets are 3' 6" in diameter at the mouth. In the other, all four trumpets are 1' 6" in diameter. It will be observed that sights are fitted to facilitate the direct control of searchlights by bringing the apparent end of the beam onto the foresight when aircraft are being followed acoustically.

I forward these photographs in the hope that they may be of interest to you.

Yours very sincerely, (signed) Guy (L) Gaunt

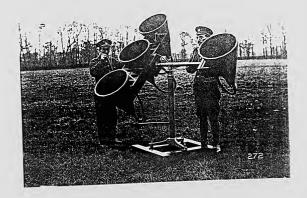
# [ATTACHMENT/ENCLOSURE (PHOTOCOPY)]



# [ATTACHMENT/ENCLOSURE (PHOTOCOPY)]



### [ATTACHMENT/ENCLOSURE (PHOTOCOPY)]





March 14,1918.

Mr. Edison:

Your memorandum about Condensers, coils and wire was received yesterday. I got Hellner on the job at once, and he got together the following material, which is being sent to you by express today.

The Bunnell coils are those that Geoghan made for you special last Spring. You will remember they were on the table back of your desk.

The Condensers have been gathered by Heilner from Building 4 and elsewhere.

#### COILS MADE BY BUNNELL:

Secondary	Turns	Primary Turns
2810 ohms	16050	15.8 ohms 2160
2040 "	11050	23.8 " 2430
2025 "	11050	2.1 " 700
1360 "	9350	
1350 "	9350	24.3 " 2430
1070 "	10110	
755 "	7050	2.9 " 770
710 "	7050	6.5 " 1310
540 "	6450	1.4 " 610
280 "	4530	4.6 " 1150
205 "	4150	4.7 " 1150
202 "	4150	2.9 " 770
95 "	3260	1.3 " 610
95 "	2360	1.6 " 2160
53 "	2160	6.5 " 1310
51 "	2160	2.1 " 700
		garra is morrows.
	SMAI	LER SIZE COILS, AS FOLLOWS:
2800 ohms	10650	
1000 "	7850	260 Ohms 8240
520 "	5380	100 " 4350
370 "	2800	53 " 3500
270 "	4230	
130 "	3260	11 " 1500

#### WESTERN ELECTRIC CONDENSERS:

Pieces	Condensers	Capacity
20 4 4 3	21 D 21 E 21 AA 21 AH 21 F	2 M.F. 2 M.F. 1 M.F. 0202 M.F. 1 M.F.

We are also sending the following spools on which Meilner worked for you some time ago. We thought you could perhaps use them:

- 3 finished hard rubber spools for primary.
- 3 half finished hard rubber spools for primary.

W.H.MEADOWCROFT.

when

Cuble Address "Edison; NewYork"

Trom/theLaloratory
Thomas A. Edison/,
Orange/NJpurch 14,1918.

Mr. S. C. Shaffner, c/o Commandant, U.S.Maval Station, Koy West, Fla.

My dear Mr. Shaffner:

It received your letter of the II the instant in regard to some hand phones that you wanted to have made up by the Western Electric Co. At the same time I have received your telegram of yesterdey, and have sent you the following Day Letter today. This explains theelf.

""! Received your letter eleventh
and telegren of thirteenth regarding
Bell receivers. As I und regarding
bell receivers. As I und return
your telegren supersedes your letter
and you will not want the 200 and 550
ofm receivers. Have ordered six 500.
Tell Hr. Edison his condensers, coils and
wire go express today."

You will see the uncertainty that I feel about it, but possibly I may hear from you by telegraph before you receive this letter.

With kindest regards to you, I remain,

Yours very truly,

M. Lucadoweroff a. Assistant to Mr. Edison.

March 14,1918.

Western Electric Co., 463 West Street, New York, N.Y.

Gentlemen: \_attention: Dr. Jowett or Mr. Lold:

l hand you herewith copy of a lotter that I have just received from hr. S. C. Shaffner, who is working with hr. Mileon down in Log Leat. This letter cells for with hand 'shence, two of 260 chme, and two of 500 chme.

Evidently, since the letter was written, in, beliens has changed his mind us to his legalmenents, as I have just reasived the enclosed telegram from in, shafter asking for six 500 chm Bell Sacaivers. You will note that he asks you to most written lines in place of red fibre.

I cm author of the opinion that ir. sibhefher's tolegias unpressed with lotter, but will find out by wire. At any raio, will you please re should and have the six 500 chm Bell head where medo up at once. If it is convoient to cond them ever by sectomper when they are 'endy, please do so lif not, convoient to cond a sectomper, please 'phone so when they are ready and I will send a boy over for them and we will ship then i from here.

Herewith I hand you Turchace Order for these cir Sell secoivers, and would urge upon you immediate attention.

Yours vory truly.

Assistant to Er. Edison.

March 14,191d.

Hrs. 3. N. Joffrios, Tonackot, Wash.

Donr iladam:

Your favor of the 9th instant to Br.
adicon has been received. He is out of torn and
will not return for two or three mouth, but in
his absonue to are able to inform you that there a
has been in operation for some time devices for
detection of Submarines on comment cinitar lines to
those surrected by you.

Yours very truly, Edison Emboratory.

1/4844



RECEIVED AT 200 MAIN ST.
202NY GC 42 BLUP EXANGE, N. J.

PN WASHINGTON DC MAR 14 1918 SPM

MR THOS A EDISON

ORANGE NJ

I HAVE A NEW STYLE MACHINE TO BE USED AT THE FRONT WAR DEPARTMENT VERY MUCH INTERESTED HAVE YOU A A LARGE GOVERNMENT CONTRACT Western Electric Company.

Western Electric Comp

Since cending a brief note to you by your messenger I have taken up the matter of having the cix hand receivere made, and we are starting on them immediately.

In all of our recoivers the coils are wound expansively and then mounted on the magnete, and at present we are using red fibre for the epool and the opool heads in all our work. We expect to be able, however, to use clied linen as Hr. Edicon desires, but it may require some exportmentation before we obtain successful results, and this may delay the completion or the windings. We anticipate little trouble in substituting clied linen for the spool itself, but obviously there may be some difficulty in displacing the red fibre spool heads, incasuch as the linen will not ast as material mechanical support.

We are going to do the best we can, however, and hope to have these ready for you within a week, although in view of the necessity of some experimental work it may be two weeks before we get really encoessful results. In accordance with your request the species will be wound for 500 obns. When the receivers are completed they will be eent directly to you.

P.J. Wold.

U. S. NAVAL STATION KEY WEST, FLA.

. Man. 16, 1918

My dem Mr. Meadownoft.

furtures of Mr. Edwar. Who the tor purkeyes containing the cylindrical minors. Thombs. The latter where just what I wanted and I believe we can make good use of them.

In the March 9 some of the fitney stigest there is an article on a diving whell for me against submarines In this article reference is marcheto the frientific dimerican. If it is possible I would hike to Mained a copy of this particular issue. We date is given.

to employed in the highthour exeft. I'M. I want to me of ment with the highthour exeft. I'M. I want to so on furnishing closhing fainthis office to so on furnishing closhing fainthis office of the way of affection who want to the world with the share of the state o

#### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EGISON,
PETER COOPER HEWITT.
VICE PRESIDENT,
VICE PRESIDENT,
VICE PRESIDENT,
CHARMAN,
THOMAS ROBINS.

OFFICE OF THE SECRETARY
13 PARK ROW, NEW YORK

March 16, 1918.

To the members of the Naval Consulting Board: Dear Sirs:

At the meeting of the Maval Consulting Board held on March 16, 1818, it was on motion of Prof. Richards, seconded by Mr. Sprague, directed that the Secretary send the following proposed amendments to the Rules and Regulations of the Board to the members for their action at the next meeting, which is to be held on March 30, 1918:-

(Extract from present Rules and Regulations, the words which)

#### Article IV - Officers

1. The officers of the Board shall be:

Thomas A. Edison, President, <u>A Vice-President</u>, A Chairman of the Board, A Secretary of the Board.

The three latter shall be elected annually by mritten hallot by the Beard from among its members at its "Annual Meeting, which shall take place in March. Due notice of such election shall be sent to each member of the Beard at least ten days in advance of such Annual Meeting.

2. The terms of office of the <u>Vice-President</u>, Chairman and Secretary shall be for one year.

#### Article V - Meetings

 Regular meetings of the Board shall be held at intervals of one month, excepting that there shall be no regular meetings during the months of July and august, and special meetings shall be called by the Secretary of the Board, with at least five days notice, upon request of the Secretary to the Easy or the President or the <u>Vice-President</u> r the Chairman or any five members of the loard, the the date and place of the meeting to be arrange of the secretary of the Board in conference with a conference of the conference of the conference with a conference of the conference of the Secretary called the meeting.

- 2. The Chairman shall preside at all meetings of the Board, and in the event of his absence, the <u>Yice-President</u>, if presently otherwise any member of the Board may be chosen as Chairman pro-tem by a majority of those present.
  - 3. A quorum shall consist of ten members.
- 4. A member absent from a meeting may record a vote, age or n.y, by mail or telegram, but only for or against a resolution winds shall have been referred to him by mail five days in advance of the meeting.

### (Proposed amendments to the above)

Article IV. Sec. 1 Strike out the words "A Vice-President". Insert the words "A Vice-Chairman of the Board" after "A Chairman of the Board".

Sec. 2 Strike out the words "Vice-President". Insert the words "Vice-Chairman" after "Chairman".

Article V. Sec. 1 Strike out the words "Vice-President". Insert the words "or the Vice-Chairmam" after "Chairmam".

Seo. 2 Strike out the words "Vice-President" and insert in their place the words "Vice-Chairman". The foregoing proposed maendments will be voted upon at the Annual Meeting of the Board to be held on Maroh 30, 1918, in accordance with Article IX governing amendments, which is as follows:

#### Article IX - Amendments

No amendment to these Rules and Regulations shall be made except in accordance with the following procedure:

- (a) Amendments to these Rules and Regulations may be proposed at any regular meeting, and shall be voted upon at the next regular meeting of the Board.
- (b) The Secretary of the Board shall send to each member a copy of any proposed amendment at least two weeks prior to the meeting at which same is to be voted upon.
- (c) It shall require a favorable two-thirds vote of the entire membership of the Board, expressed tither verbally or in writing, to adopt any amendment to these Rules and Regulations.
- (d) No amendment shall be effective until it shall have been approved by the Secretary of the Navy.

Attention is called to Article V, Sec. 4, and to Article IX, Sec. (c) with reference to voting by mail or telegram. It is hoped, however, that as many members as possible will attend the meeting.

Very truly yours,

Thomas Robins

Secretary

UNITED STATES SHIPPING BOARD WASHINGTON, D. C. NO BOAR

PLEASE REPER TO FILE No.

# UNITED STATES SHIPPING BOARD

Thomas A. Edison, Esq., Navy Annex, Washington, D.C. March 18,1918.

Dear Mr. Edison:

You will recall that sometime ago you suggested to me the idea of placing motive power in sailing vessels. Evidently that suggestion which was given some publicity has aroused the interest of Hr. William T. Cutter, whose letter to Semator Franciscoe is herewith attached. I am sending you the correspondence for your information.

With kind regards, I am,

Sincerely yours.

ENH; FBL; G Enclosure. Edward N. Huley

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PRESENT.
PETER COOPER HEWITT.
VICE PRESENT
WILLIAM L. BAUNDERS,
CHARMEN.
THOMAS ROBINS,
BICHSTARY.

OPPIOR OF THE SECRETARY 13 PARK ROW, NEW YORK

March 18, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

The Annual Meeting of the Maval Consulting Board will be hold on March 30, 1918, at the Carmegle Institution, Washington, D. -C. At this meeting, in accordance with the Begulations, the Board will hold its election of officers for the curring year.

Very truly yours,

Thomas Robins
Secretary
by G.T.

## NAVAL CONSULTING BOARD OF THE UNITED STATES

THOMAS A. EDISON.
PARTIEST.
PETER COOPER HEWITT.
VICE PRESIDEN
WILLIAM L. SAUNORS.
THOMAS ROBINS.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

March 18, 1918.

To the Hembers of the Naval Consulting Board:

Dear Sirs:

Please be advised that there was read at the Board meeting held on March 16, 1918, a letter written by Dr. Peter Cooper Hewitt to the Secretary of the Mavy resigning membership from the Haval Consulting Board, and a reply from the Secretary accepting the resignation.

Dr. Hewitt being no longer a member of the Board, all lists should be corrected accordingly.

Very truly yours,

Thomas Robins,

Secretary,
by G.T.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESIDENT,
PETER COOPER HEWITT,
VICE PRESIDEN
WILLIAM L. SAUNDERS,
THOMAS ROBINS,

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

March 18, 1918.

To the Hembers of the Haval Consulting Board: -

Dear Sir:

Innolese herewith a list of the members of the Board giving business addresses, residences and telephone numbers.

I on compiling a new list and should be very much obliged to you if you let me know grout by that change, if any, should be made. I should also be obliged to you for any information which you wish incorporated.

Very truly yours,

THOMAS ROBINS?

Scoretary.

By gus

GY/S

#### [ATTACHMENT/ENCLOSURE]

### HAVAL CONSULTING BOARD

OFFICERS President, Thomas A. Edison; Chairman, W. L. Saunders; Scoretary, HUYCHISON, DR. H. R., Edison Leberatory, W. Orango, H.J., Tol. Orango, 1907, Pes., Llowellyn Prit, W. Orango, H.J., Tol. Orango, F.J., Tol. Orango RIGHLIED, TYPE, JOS, E., Lohich University, South Ethhubem, Pr. DILEM, ADPEL L. Leconobillo Co. of America, Bridge ort, Comm., Camp. Fairfield, Comm., Camp. Finiteld, Comm., Camp., Camp. Finiteld, Comm., Camp. Finiteld, Comm., Camp. Finiteld, Finiteld, Camp. Finiteld, Finit 771. REG., 48 E. 78th St., H.Y. City, Tel. Lunce 7000; TEBSTER, DR. A. G., Clark University, Norocatr, Mass. HITTEEV, DR. W. R., Genoral Electric Co., Schemoctady, H.Y. WOODWARD, DR. R. S., Carnegio Inst. of Mashington, Machington, D.C. ETICH, PEAR ASSERTAL U. STROTHER, Savy Department, Leshington, D., LECKICH, PEAR ASSERTAL U. STROTHER, Savy Department, Leshington, D., LECKICH, MAJOR R. D., 80 Lakion Lew, HY, City, Tol. John Side. D.C.

## United States Navy Yard,

March 19, 1918.

My dear Mr. Edison:

I have delayed answering your letter in regard to the hydrogen detector in the hope that I would receive a report of tests from the Eureau of Standards to whom I forwarded a Eurrell instrument for test quite a while ago. Then I get this report I will send you a copy.

The jess detector which we are manufacturing and several peak by the Durseu of Standards. Repeated tests can be set this year with mixtures of known to constant the peak of the peak of

securacy to short 1/2 of 1/2 but I am amidiated their from the Eureau of Shandards on the accuracy of these tubes which we used as a check on our automatic detectors. They are rugged and portable.

The Sperry type has not been accepted due to in-accuracy as found on our tests.

The instrument submitted by you was found to be very accurate on our tests and its great socurary makes it valuable as a latorate schudard, but I think it is doubtful if the average enlisted man could operate successfully this instrument on a submarine.

Mr. Leadowcroft is mistaken in supposing that I left all this to subordinates as I was in touch with the main features of the different instruments tested..

As you know, the man on submarines may possibly be careless or neglecting in taking readings with an instrument the state of the state of the state of the purpose, and the state of the a boll that rings when the assumed danger point is reached, I think the people on the boat have been provided with means to prevent explosion so far as that is possible.

The conditions may be compared to a steam boiler under pressure, - if the firemen were expected to attach an instrument and go through an operation to find out the boiler pressure at any time and no satety valve provided, I should expect explosions to be common; but as there is provided a continuous reading pressure gauge as that he pressure may be read at a glance, and in addi-tion a safety valve that will blow when the danger point is reached, we have done all that is possible. In the same way the continuous reading hydrogen detector and the same way the continuous regaing marrogen detector and the alarm bell sounding at the danger point seems to afford all possible protection and these restures appear to me to outweigh in desirability the superior accuracy of the detector which you sent in.

I have been so busy with the large number of ships that I have to fit out and repair that I have not had much time to go very far into details on most matters but I made a special effort to consider this as I know that you were greatly interested.

I mope that you are in good health and am sorry that I cannot see you occasionally. I can never get out of the yard those days but it seems that the harder I work the better I feel.

With regards and best wishes.

Sincerely yours, LEBU.

P.S. Your enclosures

returned herewith.

Hon. Thomas A. Edison, Eavy Department Annex, Washington, D. C.

Jell Burd to had no tracelles madeing a dial to our one one but I left it out I have one to but I left it out to these afacilities a submarine to lead afacilities to the day, to lett it as to warm,

at washington twined it down on a coount of 62 ing fragile, it was in a secretly in not broken allhough dealered to health trace by health is good & their France by week in the contract of a secretion.

march 20, 1918

Thomas a. Folisin

of Commandant
U.S. Navor Statem.
Key West, Har.

Louis Ott says gas famula no geed - Tried it on mouse .

Merchownoft

## NAVAL CONSULTING BOARD

THOMAS A. EDISON,
PETER COOPER HEWITT,
VICE PRESIDEN
WILLIAM L. SAUNDERS,
CARINAN,
THOMAS ROSINS,
ESCRETARY,

OF THE UNITED STATES

OFFICE OF THE SECRETARY 13 Park Row, New York

March 21, 1918.

Mr. Thomas A. Edison,

Edison Laboratory, Orange, N. J.

My dear Mr. Edison:

At the last meeting of the Board on March 16th it was agreed that each member who was so disposed should individually express to the Secretary of the Navy his viewe as to the need for a great number of additional large, seaworthy and fact submarine chacers. Some of our members have already written or telegraphed to the Secretary advocating the immediate construction of 250 of such boats. It seems important that as much pressure as poseible should be brought to bear on the Mavy Department, and with the thought that you may find in it some information which you might make use of in writing or telegraphing to the Secretary, I am sending enclosed a copy of a letter which I wrote him under date of March 18th, also a copy of a Tribune editorial on the same subject.

Yours very truly

TR/gt Eno.

Dext wishes

REPRESENTATIVE IN CUBA
OF THE
FOOD & FUEL ADMINISTRATIONS.
WAR TRADE & SHIPPING BOARDS
OF THE
UNITED STATES.

SOO ROBINS SUILDING, HABANA, CUBA,

March 21, 1918.

IN REPLY REPER TO

Charles B. Hanford, Esquire, U. S. Naval Station, Key West, Florida.

My dear Mr. Hanford:

I have to acknowledge receipt of your letter of March 21, 1918, addressed to me at Mr. Edison's direction, with reference to the vessels bringing lumber and other commodities to Cuba and returning light to the United States.

You may rest assured that I shall do everything in my power to have this tonnage diverted to the carrying of sugar in order to relieve the threatened congestion at some of the Cuban ports, and I am glad that you have referred inquiring ship owners to me.

Jours very trul

divise that the con-

ECH/

March 23rd, 1918

Dear Mr. Meadoweroft:

In reference to the attached telegram from Mr. J. O. Mack, Hotel Driscol, Washington, D.C., wish to state I stopped in to see Mr. Mack and found that he had a half completed set of drawings and specifications of a proposed trench digger.

Mat he is particularly interested in is to have somebody influence the Department in his scheme. I told him we had enough schemes here to bust the bank of England and we would not be interested in anything of that nature.

He is a young fellow from idaho, not very impressive and not overly intelligent. He has spent almost \$1000. In development work but nothing to show but a muddled up set of drawings.

Reduct a Barbarar

groted wirm



OFFICE AND FACTORY

MANCHESTER, CONN., U.S.A. March 23, 1918.

Thomas Edison,

Orange N. J.

Dear Sir:-

Answering your letter of the 9th relative to type "H" instruments that have been sent here to the factory to be re-altered advise that these will be forwarded to you on Monday the 25th.

Yours very truly,

The NORTON RESCUENCEL INSTRUMENT COMPANY.

HMN.G.

Treas.

THE SECRETARY OF THE NAVY

NAVY DEPARTMENT

WASHINGTON

VR/WSS/26840

WASHINGTON

(I)

WASHINGTON

(I

Dear Mr. Meadowcroft:

I received an inquiry this aftermoon from the Office of Intelligence as to a chemist amend Silver. As I have frequent inquirience Beard do you not think it advisable to furnish me with a list of the names of those working in connection with or under like. Bisnor!

Hoping everything is going well with you and if correspondence with Mr. Edison is not going satisfactory please inform me personally.

In locating the quarters in the new building to be created for the Many Repartment I see they have included a room for Rev 190 per the Many Repartment I see they have included a room for Rev 190 per 190 per

And the could probably receive more personal attention.

Will you take this up with him or shall 1?

And the could be come sincerely yours.

In rund to did to come or yours.

Mr. Wa. H. Mendowerort.

Reison Laboratory.

Orange. H. J.

LEGT M. Market.

#### [ATTACHMENT/ENCLOSURE]

Marcy 28,1918.

Rear-Admiral W. Strothor Smith, U.S.K., Havy Dopartment, Lashington, D. C.

My doar Admiral:

letter of the 5th instant. I have been truppling in the patter of affiliation recently, having lost up wife and bet no there in a few of one of the college within a for days of such other, and in consequence, have been suffering from a nervous collapse which has kept he from the office tweened, days.

Er. Bruce R. Silver is a Chemiat, who has been working with Er. Edison on the Government experiments ever since lest Spring. He is now down with Br. Edison at the U. S. Hewal Station at Key Leat.

I do not think that in. Balaon would have any objection to my furnishing you with a list of the names of the experimentors who are working in connection with or under him, and I will write down and ask him to give me permission for furnish you such a list.

in rormed to quarters for in Midson, I think it might be well for you to take the matter us with him direct, so it will cut out some of condecution. By impression is that before he left Lentington, in Fobruary, he had made some arrangements with the Secretary banch quarters, and Secretary banche he with the Secretary banched he will be set our before he for J. J. Butlor of the General Board in comection theoretic. But in Butlor is so more you, for happ it might be well for you to have a livile talk with him about the matter made see if my impressions are correct.

With kind regards. I remain.

Sincoroly yours.

Assistant to Er. Edison.

A/488L.

# WESTERN UNION TELEGRAM

SEORGE W E. ATKINS, VICE-PRESIDENT	NEWCOMB GAR	LTON, PREMIDENT	BELVIDERE BROOKS VICE-PAR	MIDENT
RECEIVER'S No.	TIME FILED 4:30	P. In CHECK	Had	
SEND the following Telegram, subjection back hereof, which are hereby Thomas A.Edison	agreed to 1,	March 200	191819	1
ToKey ken	t, Fla.			_
linen. They suggest. At have to be re here what I c	will try to in Conference wit arranged to get onsider two ver	sulate with h their men best result y fine instr	insulated with ciled hard rubber as you they say audion will s. I am making up uments complete and Cable is promised for	
lost of the w	ook. Pushing	it all fast	as possible. Will	
be here until	Saturday 1f I	can do anyth	ing please wire mo he	1.0
			Shaffner.	
SENDER'S ADDRESS			BENDER'S TELE- PHONE NUMBER	



# WESTERN UNION

TELEGRAM

CLASS OF SERVICE SYMMOL.

Day Message
Dry Latter
Right Missage
Night Missage
Night Latter
N L
III mone at these brins symbols opperating the check (transler of symbols) appearable to a pressupe. Other symbols opperating offer the check.

RECEIVED AT
7 NYR 48 NLNL

KEYWEST FLO. MAR 27 1918

& C HAFFNER

CARE W H MEADOWCROFT EDISON INC ORANGE NO.
TWO SINGLE CABLES TWISTED TOGETHER ACTS BEST A SINGLE STREND
BREAKS AT THREE HUNDRED POUNDS HAS TWICE STRENDTH NECESSARY, HAVE
FOUR THOUSAND FEET SINGLE CÁBLE MADE WITH COPPER AND STEEL
LIRES HALF THE WEIGHT BUT KEEP RUBBER SAME THICKNESS BRAID
AND WAX YE WILL TWIST CABLES HERE ANSWER

I A EDISON

723AM MAR 28

Berlingo Gertha Corcha &

를 44, 분

8 NYR 27 NLNL

KEY WEST FLO MAR 27 1918

W H MEADOWCROFT

ORANGE NJ

SEND BY MALLORY LINE FIRST STEAMER THREE HUNDRED AND FIFTY YARDS OF COW HAIR FELTING ONE INCH THICK LIKE USED IN BOOTH AND STEEL RECORDING LABORATORY ANSWER

T A EDISON

Simmons Pipe Benning Wills.

W.W. I - FXP. WORK

KEY WEST, FLA. M. M. 27, 1918-

Ar. M. R. Antohim = Educa Laborationia,

oranje n.g.

My dear both Authur : Induced plane find a note which Who Edin has just handed me, me at the ork, t and I for-

on receiving your letter in treaps must. Homeh for for: at fint he said wire I ame then aime send of mont.

with bush wishes & som,

Smearly James, Charles 13. Haufurk

Hulcheson

11(m 27 /99

with Karris Sachem will be sufficent and Repose I will not come not necessary north until april 20th

Telegram.

March 28, 1918
Thomas a. Edwarn
4. Commandant
U. S. Naval Station
Key West, Ha.

Will ship wow hair felting next Tuesday Mallory beat, Do you want the hundred fifty square or linear years - answer quick.

3/25/6

Sent Ban Went

WESTERN UNIO
BIT STATE
BIT

SERVICE SYMBO

RECEIVED AT 288 MAIN ST. ORANGE, N. J.

KEY WEST FLO MARCH 28-18

W H MEADOWCROFT

ORANGE NJ

MR EDISON OUT ALL DAY JUST RETURNED SAYS THREE HUNDRED AND FIFTY SQUARE YARDS BEST RESULTS TODAY ON FISH YET ACCOMPLISHED THINK THEY ARE ON RIGHT TRACK NOW ALL PLEASED ALL WELL AND HAPPY EXPECT MRS EDISON HERE MONDAY NIGHT.

CHARLES B HANFORD

738AM MARCH 29

CLASS OF SERVICE

Feet Day Message

Day Letter

Night Message

Hight Letter

If no cless of service is designated the selegem will be formation and the service of the serv

# Copy of Western Union Telegram

#### CONFIRMATION

Orange, New Jercey.

Thoe.A.Edison, Naval Station, Key West, Florida.

Understand you expect be here April fifteenth if so unless you want me there now I will await your return and not go South Saturday. Please telegraph me immediately what I shall do.

HUTCHISON .

ORANGE, N. J.

KEY WEST FLO MARCH 28-18

MR HUTCHISON

EDISON ORANGE NJ

MR EDISON OUT ALL DAY RETURNED SEVEN TONIGHT SAYS WILL NOT BE NECESSARY FOR YOU TO COME HERE MAILED YOU IMPORTANT LETTER FROM HERE YESTERDAY SUBJECT YOUR LAST LETTER HE APPROVED OF YOUR SUGGESTION REGARDING PARTIES IN COMMAND APRIL TWENTY BET FOR RETURN ALL WELL MAKING GOOD PROGRESS NOW.

CHARLES B HANFORD

735AM MARCH 29

BENDER'S TELE-

TELEGRAM

RECEIVER'S No.	THE FILED 10:30 am CHECK	aa to mc.
SEND the following Telegro	m, subject to the terms Haroh 28,193	.8
	A. Edison, Commandant,	
6/6	Mayal Station.	
	Key West, Fla.	
cable	specifications you mention with	ivod. Am taking up Bishop as a reminder
will's	say you have there about two the	pusand feet of twisted
		S.C. Chaffner

March 29th, 1918.

Mr. Thomas A. Edison, Key West, Florida.

My dear Mr. Edison: -

On arriving here last week I at once went to Mr. Lenglay and asked for his assistance to familiarize him with the whole situation. He accompanied me to the Bishop Gutta Pescha Company and went over the situation with Mr. Reid, the Managor and Vice President of the film.

They had shout half made 2 pieces of concentric cable, each plece 2,000 fft. in length, the outer conductor is of copper in place of steed as in the former cable. The outer covering is of a vary high quality and will be the best for the work. "And will add to the flex-point of the cable and will not break if property protected at the meak point. This cable he occepted to ship the first of the week. He is reach point in the cable he occepted to ship the first of the week. He is the made up with 19 strands of \$23 steed, with concentral winding with copper highly insulated and to be over 1.6 inch in discrete.

In reply to your telegram which is as follows: -

"Two single cables twisted together acts best, a single strand broaks at three hundred pounds, has twice strength necessary, have four thousand feet single cable made with copper and steel wires half the weight, but keep rubber same thickness broid and wax we will twist cables here."

will say Mr. Reid has final by found material to make a cable which he believes to be ideal for your work. He found some "Airoplane strand." This strand is of 7 \$28 B & S very high grade steel with tensil strength of 185 lbs. each strand. "Bent this cable is completed it will be about the same dismeter as the cable you are now using.

We hope that this will be satisfactory.

Er. Langley and myself have designed what we consider a very well insulated "magnetophone" and two of them are being made up. Expect to ship them about maxt week. It is a hand phone made over and enclosed in hard rubber and I believe it would be impossible for the insulation to break down Mr. T. A. Edison -2-

providing there is great care used in assembling it. Drawings will be forwarded to you the first of the week. He is also making up a telephone of the hand phone type which is stid to be a little more efficient and will be practically impossible to break the insulation down on it if ordinary care is used in handling it. It is very difficult to get in the open markey which contain seed and all kinds of conducting material. We first that to get rubber suitable for the high class of this work, it will be necessary to have the rubber made up expectably for this purpose.

Mr. Jengley is going to push this right along and will send them down just as soon as possible. We will not assemble them outriedly because we think it best for some careful man to assemble them there, then he will then the send of th

We had the magnets on these 2 types of instruments re-wound so that they will be about what is necessary for the primary winding in the audion transformer, that is, the reactance is fairly well balanced with the audion.

I am leaving here tomorrow for my home, 6107 Kimbark Avenme, Chicago, Illinois and I sincerely trust that everything will be worked out to your entire actisfaction and at an early date.

Very respectfully,

Signed C. S. Shaffner.

#### MEDICAL RESEARCH BOARD AVIATION SECTION SIGNAL CORPS

Harch 29.

From: The Secretary, Medical Research Board

To: The Thomas K. Edison Laboratory

Subject: Charges on Control Boxes

1. In commoction with your ctatement of February 36th, some explanation is desired of your chirgos "Overiond, 56% on machine Labor and 36% on supervision, total 3555,46." This is a supervision, total 3555,46." This is a supervision with the supervision of the supervision of the supervision conducted to the sum of 3076,56, and supervision and drafting 3316,60, a total of 73154,68, which that would seem to be amply sufficient for the work wouldood.

2. In this connoction, it is desired that in your roply you include a copy of the letter of Dr. Yandell Menderon, authorizing you to do this wark. The fallowing quotation from the almute of the Medical Research Board bears on the above statement:

"In a free discussion of the bill by the Board, it was agreed that the charges were exceeding-ly exceptions."

R.G.Soibert

Midder, M.R.C.

March 30,1918.

Roon-Admiral G. E. Burd, U. S. F., Havy Yord, Brooklyn, H.Y.

ly donr admiral Burd:

your letter to him of the 19th instant, in connection with the Hydroren Detector, topether with the correspondence and papers, clatting thereto.

He wishes we to tell you that no had no trouble in adding a dial to our form of Detector, but he purposely left it out in the one that was sent to you.

No also cays that he has one of the Detectors in a Camberlia united operation over other day, like placed it there to test it, so the Bureau at tachington turned it down on account of its being "Peraillo". It has been in position a mainty and is not you broken, although it be functioned to the hall.

ir. Adison also expresses the hope that your health is rood, and says that he will be even in they to see you.

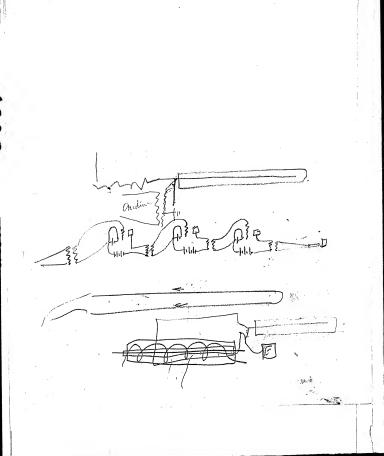
· Yours very truly,

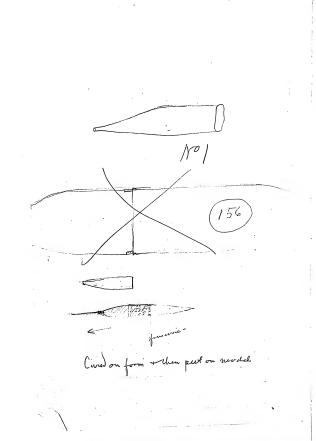
### Assistant to Mr. Adison.

P.S. I feel a little embarraceod to see that Mr. Edison sont you Mr. berner's memorandum with my rather free and easy comments written upon it.

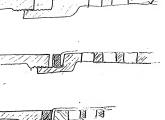
W.H.H.

ice The reiffer it is orked on Me crophone its perfectle. New could by Every Experienter colo have a





Wint Jamore who where you cutaway 1/4 meh natural/hickness of the rubbs The thickness of No 26@ 30 Biog then smooth core with dopo form on block 1/2 qualles Count Hore of Vidennes on block we Talaun passets to present sticking NO3



la la

Can but new rugs un Bird boot. NO 4

Naval Consulting Board and Related Wartime Research Papers Correspondence April 1918 Say Leller apric 1, 1918

Thomas a. Edwon

Key bless January Juas day Evening a war Committee of 200 from order Edison whereby Char Eleven, Chairman, will hold their first meching. All war measures such as food, Edisony loans, war sawing stands and other matters requiring our cooperation with Goot, well be discussed and Committees organized of representative men and women allosed from more and women allosed from makes. The stogan with a make a lustiness of winning the train Kindly telepath a good manage to be said at this first muling. Measonwoogh to was at this first muling. Measonwoogh

I. J. Butter, may Popt Washington, D. 6. W. Edison wants, a small motor about 6 vells 6 auperes 3950 to tabout 4000 revolutions a minute frame diameter Walabout 4 miches , length about 6 miches . Ball bearings. He has heard that Signal service have developed some small machines of this Kind . A Will you Knidly step over and sex Captain Gray 12/2 G St. of N. W. and see if they have no so over whether can space for M Edwar give less priments acud it to me at Laboratory for certain modification 10-11- Record nonemont wanted by mb 1. -

SEND the following Telegram, subject to the terms GC 73 Govt on back hereof, which are hereby agreed to WA Washington DC 450PM Apr 1,1918.

W.H.Meadowcroft, Edison Laboratory, Orange, NJ

Captain Gray of Signal Corps has no motor of type requested. Ris Material has been transferred to Signal Corps Laboratory at 16ths Silver MJ. He suggests you telephone to Captain corn there. They might have a small dynamo which could notified and adapted. I am telephoning to Frank Quarad Managhouse Company at East Pittsburgh. Will communicate with you tomorrow.

Jarvis Butler



April 1.1919

ir. J. O. H. Pitney, Chairman, U. S. Lar logar thent, District Bourd for Division No. 2 of New Jorsey, 755 Broad Street, Butunyk, H. J.

Dear Sir :-

Your notice regarding Industrial Claims, in regard to John Hanley of Local Board No. 4, Newers, has been received.

I have propered an effidavit, which is enclose, herewith. You will see from this affidavit that it is not quite possible to proper it oxactly as called for by your printed notice, as the particular work on thich John Manloy to engaged is not of a copyorcial nature, but comes under the head of an ontorpice noncerary to the fational interact.

Yours very truly,

Appintant to Dr. Edicon.

Enclosure.

### [ATTACHMENT/ENCLOSURE]

State of Now Jersey.)
County of Essex

Lilliam H. Hondoweroft, of Boonton, H.J., being duly enorm, depotes and case that he is the populated Secretary of Thomas A. Edison, and as such is familiar with the facts covered by this efficient.

ir. Edison is conducting some experiments for the United States Government at the request of the Sourcetter of the Lary, and during the propress of this work has been absent from the Laboratory coven menths and is at present at May Leaf, Pla., conducting much experiments.

ongared about a year age by 1:. Minutes ten Etreet, Bourry, B.J., was per inner a year age by 1:. Minutes to entit the in these experiments, and has been working these on year inner and in the constance, and has been working the constance, when an also developed on year of and ir. Minutes the open at the might go to a good Hoppital in Her Mork to have the eye attended to.

been continued with each college that maid John Bender, has been continued when the cursor physicians, rail has just been discharged in the college of the college day look an soon as he is better to certifine in the experiments on which said Halley has been engreed.

for the Gyermont, an aforential country ended the Gyermont, an aforential country ended the description and of industrial Product the head of Industrial Product the sense of the Line and work, but charge the Gyermont anything and portional time and work, but coult the actual orde state, in the sense as John Stanley reports to me that he is read; for work, I shall could find down to in: Edition at that he is read; for work, I shall could find down to in: Edition at Tay to the Lines I receive prior instructions to the contrary.

Subscribed to and acorn before me this 1st day of april, A, D. 1918. ADDRESS REPLY TO THE ATTORNEY OF THE PARTY AND REPLET TO THE TOTAL AND HOMES

DEPARTMENT OF JUSTICE. THIO: HB

Apr il 1, 1918.

Thomas A. Edison, Esq.,

United States Eaval Station,

Key West, Florida.

Sir:

It is the understanding of this Department that your assistant, Bruce M. Silver, recently assigned to conduct certain experiments at Tashington, D. C., in conjunction with Dr. Talter T. Schoele, is compensated from a fund placed at your disposal by the Secretary of the Tavy out of a special spreoprietion for such work, the payments to Dr. Silver being made by you direct.

He expresses the opinion that it is important he remain here two or three weeks as he believes he can secure from Dr. Scheele inform tion and assistance which will prove to be of great value to the Government.

It is therefore suggested that in order to avoid confusion, you instruct him to submit his accounts to you in the same manner as heretofore during such time as he may continue to be engaged with Dr. Scheele.

Respectfully,

For the Attorney General.

Assistant Aftorney General.

(N)	

# WESTERN UNION TELEGRAM

SEORGE W E. ATKINS, VICE-PRESIDENT	NEWCOMB CANLTON, PRINCENT		BELVIOLNE BROOKS VICES TELES	
RECEIVER'S No.	TIME FILED	CHECK		
SEND the following Telegram, subject on back hereof, which are hereby	agreed to		huć 2	1918
To W. H. Knier	nv .	1. 6 %	0,	, .
	ф Сонил	udant, il S. no	wac old	ficu
		Key We	st Fla	
Six 500 of	n receivers	, cow linix felle	ing, and	Goe
hard rubber o	clivered me	Mory line yest	dray lo	
by todays boar	Jest m	Edison		
	1,9	10 . H	. Тестон	veroff
Serit . 47	· ·			/
SENDER'S ADDRESS 9.15	wine	BENDER'S PHONE NO		

April 2.1918.

Officer in Commund, U. S. Signal Corps Laboratory, Little Eilver, E.J.

Doar Sir:

This letter will be presented to you by Mr. S. G. Lengley of our Laboratory.

as you are probably aware, in. Micon has been conducting a corte of experiments for the Government for many souths past. He is now done at Key week, Pla. For these experiment to desiron a small motor, which iir Langley will describe to you.

ir. Edicon had heard that the dignal Corpe had developed a notor of this kind, and I tolographed yester by the first partic latter, the Chief Clork of the General Genet, since Jonertesht, acking him to stop over to see Captain Cray of the Signal Corpe in Lachington, to see if one of these brail meters could be spared for ir. Edicon to use, accomming that the Utrnal Corpe had could note to make the other brails and the control was accomming that

I enclose, horewith, copy of ir. Butlor's ronly. Homes, I am sending ir. Lampley down to see you in the matter, believing that this will be the chortest way, and ir. Edison's requirement is very urport.

Can you help us out?

Yours very truly.

assistant to iir. Edison.

PRESTON S. MILLAR,

W.W. I - Experimente / Work.

I. M. PARMER, M.E.

(1110m 1128 from DELTE) CLAYTON H. SHARP, PH.D.

ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

BOTH ST. AND EAST END AVE.

April 2nd, 1918.

Mr. Williem H. Knierim, c/o Edison Perty, U. S. Revel Station, Key Test, Fla.

My dear Mr. Knierim:

With further reference to my letter of last week, in reference to work done in Key Mest between Pebruary 18th in reservence to work done in key seat netween recruity dosh and 27th inclusive, I repret to advise that I find an error in the time. If you will remember we worked out the emperial fit the time. If you will remember we worked out the emperial fit that for Xey Test in terms of 75th perial entire time for Set Test in terms of 75th perial fit in the show the time value so secured as 19 minutes and the Xey Set Test in the Set Test Set scenage you meritain time for one same gave. In operation up my values I find that it should be 41 minutes earlier than the 76th meridian time, or 19 minutes later than 90th meridian time. I om very sorry that there was any misunderstanding at time. I om very sorry that there was any misunderstanding at the time we worked out these values and it was not until after the report was written that the error was discovered. However, if you deduct 21 minutes from all time values in the tables forwarded to you, you will have the correct information.

I am having the tables rewritten which will cause some little delay; however, I hope to forward the final report to you by the end of this week.

ery truly yours,

Engineer in Charge of Photometry.

W.F.L./C.

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## WESTERN UNION TELEGRAM

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RECEIVED AT 238 MAIN ST.

5NY H 49 NEANGE, N. .

KEY WEST FLO APRIL 2-18

W H MEADOWCROFT

EDISON ORANGE NJ

SEND BY EXPRESS TWELVE ADDITIONAL FIVE HUNDREDORM TELEPHONE RECEIVERS
IMMEDIATELY TRANSFER OF OFFICERS AND MEN SACHEM AND REPOSO JUST
COMPLETED LIEUT WARREN HARRIS NOW IN COMMAND OF SACHEM REPOSO
LIEUT PATTON INCOMMAND WILL BE RELEASED AND RETURNED TO
FORMER HEADQUARTERS MRS EDISON BRIDE AND GROOM FREDOTT HERE.

725AM APRIL



Form 1991

DIASS OF SERVICE, SYMBOU.
Telegram
Ony Letter Biss
Night Message Nite
Night Latter N L
rooms of these bree sproble
opens allet the before formation of
orable bits in a belegram. Otherinches these services in the choice.

RECEIVED AT 288 MAIN ST.

ORANGE, N.

83NY H 90 5 EXBT EAST PITTSBURG PA

BSNY H 90 5 EX-BT EAST PITTSBURG PA 1003 AM APRIL 3-18 W H MEADOWCROFT EDISON LABORATORY ORANGE NJ

REFERRING TO CONVERSATION WITH J JARVIS BUTLER WE HAVE NO STOCK MOTORS
BALL BEARINGS TO OPERATE AT FOUR THOUSAND REVOLUTIONS PER MINUTE SIX VOLTS
HAVE MOTORS FOUR AND ONE HALF INCHES DIAMETER SIX INCHES LONG WHICH
COULD BE REWOUND WOULD REQUIRE ABOUT ONE WEEKS TIME ALSO MOTORS THREE AND
ONE HALF INCHES DIAMETER SIX INCHES LONG WHICH COULD BE BUILT UP IN TEN
DAYS ADVISE OUTPUT OR EFFICIENCY REQUIRED WHEN MACHINE IS OPERATED AT SIX
VOLTS SIX AMPERES ALSO, IF LOWER SPEED WOULD BE SATISFACTORY.

(4963)

WESTINGHOUSE E AND M CO

1230PM

FLORHONE NOTO

..pril 3.191d.

Mustern Electric Co., 463 host Street, Now York, E.Y.

Gentlemen: Attention . r. f. H. Colpitts:

confirming by tolenhous conversation with you this sorting norther, at enclosing purchase Order covering twolve 500 ohm Eand Colonions acceives, which are to be made up some as the lot of dix, which I received from in 2 - 1 i hold a for day any

will you hindly excedite the making of these locoivers as much se possible, as ir. Edison is urrently in need of them then the rate roady. I would like to have then to ship them from here.

If you have not a Mosconger convenient, hindly write or tolophone me and I will cond a Mosconger over for them.

Thanking you for your courtoous attention, a

Yours vory truly.

applicant to ir. Edison.

A/4946.

### 500 Ohm Receivere for Mr. Meadowcroft Case 650399

F.B.JEWETT

J. L. MCQUARRIE ADDITION CHIEF ENGINEER

E . B . CRAFT ASSISTANT CHIEF ENGINEER E . H . COLPITTS ABBISTANT CHIEF ENGINEER

W.F. HENDRY

Western Electric Company,

ENGINEERING DEPARTMENT 463 WEST STREET NEW YORK

April 4, 1918.

IN REPLY REFER TO HEN-1231-GK REPLYING TO

Mr. William H. Meadowcroft, Thomae A. Edison, Inc., Orange, New Jersey.

Dear Sir:

I have your letter of April 3rd enclosing an order for twelve additional 500 ohe hand telephone receivers. In accordance with your conversation with Mr. Wier, we are mking these with hard rubber spoole similar to the lot of three now being made up instead of using varnished linen epools similar to the lot of six previously furnished.

We will make every offort to deliver the lot of three receivers now being made up about April lith and the additional lot of twolve receivers about April 19th. We will communicate with you to that you can send a messager for them as soon as they are completed.

Very truly yours.

Ett-Colpill Assistant Chief Engineer.

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.

PAREIDENT.

WILLIAM L. SAUNDERS.

CHANGEN.

BENJAMIN S. THAYER.

WEE CHANGEN.

THOMAS ROBINS.

OPPIOE OF THE SECRETARY 13 PARK ROW, NEW YORK

April 4, 1918.

Mr. W. H. Msadoworoft, Edison Laboratory,

Orange, N. J.

Dear Sir:

I snolose herewith some new letterheads for Mr. Edison. These you will note are corrected as to the names of the officers of the Board. This lot is a rush order and its appearance is not up to that of the others, but it will do until the regular new lithographed letterheads are ready, which will be in about a week. A supply will then be sent you, but in the meantime I would request that you use those enclosed and either return or destroy the old letterheads which give the names of the officers incorrectly.

G.C. Trefry, h

Ass't. to Mr.

GT Enc

April 6,1916.

ir. Frank Conrad, c/o Wostinghouso Electrical & Mig. Co., East Pittsburgh, Pa.

Dear Dr. Conrad:

dealy in achnocledring receipt of your telegram of the 3d instant. I have been obliged to communicate by tire with ir. Adicen, who is down in Florida in order to find out whether the small notice you doscribe took amount play no your list in, and to work or the could grade out to the country of the requested to look around a lattle further to one if, to could grade executy what he wants.

we have been fortunate enough to discover in an obscure place a reter that enswers the specifications exactly and to are going to cond it down to Ir. Edison.

. If he should desire one or more of those which you kindly offer, I shall advice you.

In the meanti e, please accept the thanks which I of or you in ir. Edison's behalf for your prompt and conteons attention.

Yours very truly,

Assistant to Er. Edison.

A/4963.

CABLE ADDRESS
"BIGGUTPER"
NEWYORK





420 to 430 East 25T Street

NEW YORK, April 6th 1918.

NEW TORRE, ADITIONAL ASSESSMENT

Meadowoff

Mr. Thomas A. Edison, Wet probably leave
May Yard, Florida. Kevent Clarical 20 of
Key Work, Florida. Kevent Clarical Line

Upon receipt of letter concision

sines from ir. Shaffner advising us that the call of swhich we furnished you for saporimental work has not proved satisfactory. We entered a shop formthat work more calles similate to oppor wise for the outside conductor instead of the timed steeled wire, we slow had omitted the wind of cotton over the outside conductor which may have been the cause of the trubuls which you had.

cables. After having this cable submarged in satt water for 24 hours we commested the center conductor to ground and explied 1,000 voits for 5 minutes, we then tested the insulating resistance and found that the insulation from the outside conductor to ground gave 2770 mags par tile, we therefore believe that this cable should work satisfactory and would like very much to have you try it out.

The other cable referred to is well along and will probably be ready for shipment within the next week.

Hoping that you have better luck with these two cables than you did with those we formerly made we remain.

It Edition.

It Edition.

It is any two the etcond cades was shipped 3 days after the first one.

Both wise HRE-Piped by making the services Both wise HRE-Piped by making the services are you leave.

Near-weight to head the first age.

apric 13/15

Experient To Cont

U. S. S. SACH TO S 2 19% Mayal Station May lest Fla.

Commanding Officer. g'yr oga : Er. Thos . . "dison. Po:

Experiments with stempskip Clio , turning circle . Subject: with 9 ft sea anohors.

1. The following tests mera made at the entrance to the mein ship chancel, key kept, Fla. One was very rough and a stiff Kortheset wind blowing an a flood tide. The aind force was about 5.

3. She W. . . . "GLIO built in 110 at Abterdam. 1.5. th 555 frot, beam 46 ft. thert 1.5 ft, discharge in 15 15 44 th 6489; which in team 15 centle to 200 to 4619. The fract during these superfections and 1705 ft. formers and 1.6 ft. aft.

bearings on blass: Son bouy: Jon an-ti. Shipp course chorus 3020 11. bouy. Starboard. 01.6 80° 97° 11,8 539° 537° 189° 1'14" 2 1890 3390 189

4. In the third experiment all four anchors were just over and were holding and as soon as the terrific strain of the chip full against the line all four pulling lines parted, therefore the result of the thrid teet was practically the sour as that of lio. 1.

Following is the conclusion of the percentage of the advance out down, with anchors from the chips natural advance.

Contion No. 2 has and advance 300 ft. Contion No. 2 has and anchors, alvance 130 ft. Contion No. 3 cll lines arted advance 260 ft.

Dwing to the Ilmitad tim which cas a total of on hours the the liefted him which can a total of one hours with courty first andmire for the actual experimental court of the admire for the actual experimental court of the first actual court of the first actual to go through according to your instructions of the first she ship actual to the rids, and conting from one anchor up to four, and owing to the rids, and conting form one anchor up to four, and owing to the rids, and torting found to the first ship and the first under the measure weather of the court of the first under the first ship and the first ship and public department of the first ship and the first ship the firs

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RECEIVED AT 2SS MAIN ST. 9 NYR 33 NENEANGE, N. J.

KEY WEST FLU APR 8 1918

WILLIAM H MEADOWCROFT

ORANGE NJ

SEND MOTOR WITHOUT BALL BEARINGS BY EXPRESS RUSH, ORDER THE OTHER WITH BALL BEARINGS WHICH YOU CAN HOLD TILL I GET HOME ORDER THE TWELVE FIVE HUNDRED OHM PHONES AND

A EDISON

7 33AM APR 9

pril 8,1918.

koar-Admirel W. Strothor Smith, U.S.H.,

Havy Dopartment,

Washington, D. C.

My dear Admiral:

fivor of the lith white one man to your entered fivor of the lith white, the followish is a lith of mans of the mean of the men of the mean of the following the litt covers only our own people and does not include any of the members of the creat or other Government employees who may accuse the may accurately. Esteen from time to time on the various experiment:

H. O. wolfe,
%- H. Kniorim,
Edd. P. Ott,
L. A. Heyos,
John Hanloy,
Jumes Burns,
Sherwood Hoore,
Em. Donns,
Bruco R. Silver, or

Andrew Thompson, louned by Carnegic Institute.

Manual emperiments. There are three others exciting with hir case one comperiments for the ker Department, for the surpose that you are not interested to have those names.

Yours very truly,

Assistant to Mr. Edison.

A/4977.

April 12,1918

Hr. J. J. H. Pitnoy, Chairman, U. S. Mar Dopartment, District Son.d for Division No. 2 of New Jorsey, 755 Broad Street, Newark, N.J.

Door Sir:-

Your notice regarding Industrial Claims, in regard to Eillian Deane of East Crungo, H.J., has been received.

I have propared on affidavit, which is enclosed herewith. You will see from this efficient that it is not quite possible to propase it exactly as called for by your printed notice, as the particular work on which william Denne is engaged in not of a commorphial nature, but comes under the head of an enterprise necessary to the Matienal interest.

Yours very trul ,

Assistant to Er. Edison.

Enclosure.

### [ATTACHMENT/ENCLOSURE]

State of Hew Jersey,)

County of Essex.

William H. Hoadoweroft, of Boonton, How Jersey, being duly sworn, deposes and says that he is the perconal Secretary of Thomas A. Edison, and as such is familiar with the facto covered by this affidavit.

Mr. Edicon is conducting some experiments for the United States Government, at the request of the Secretary of the livry, and during the pregress of this work has been abount from the Labountory several months and is at present at Zoy West, Florida, conducting such experiments.

William Deams, of 236 So. Burnet Street, East Oyange, liow Jersey, was employed in Lay, 1917, by Hr. Edicor to accist him in the above maned experiments, and has been working thereon ever since thank time, and at prompt is so employed with Mr. Edicor at Key Work; Florida.

The experiments which Mr. Edison has been conducting for the Gevernment, as aforesaid, comment be classified as coming under the head of industrial Production, as Mr. Edison does not charge the Government anything for his personal time and work, but only the actual seek outlay.

Subscribed to and sworn before me this 12th day of April. A. D. 1918.

### [ATTACHMENT/ENCLOSURE]

# U. S. WAR DEPARTMENT DISTRICT BOARD FOR DIVISION No. 2 OF NEW JERSEY OFFICE, MUTUAL BENEFIT BUILDING 722 BROAD STREET

JOHN G. N. PITNEY, CHAIRMAN HENRY F. HILFERS, SCRETARY AUSUSTUS V. HANGURS BENJ, VAN D. HEDGES, M. D. WILLIAM J. KIRBY CNARLES M. MYERS

Newark, N. J., January 10, 1918.

#### NOTICE REGARDING INDUSTRIAL CLAIMS

In order to properly determine the status of registrants staining deferred elassification on the ground that they are necessary employees of an enterprise necessary to the National interest, this Board will require, in addition to the formal proof submitted with the Questionnaire, further proof by afflavit of the executive officer. Superintendent or Manager of the industry as to the character of the Government work in which it is engaged, the proportion of Government work to the total output of the industry, registrant's relation to Government work, his weekly wages, and such other specific facts as would indicate his importance to the industry and the importance of the industry to the Government.

This proof should be filed with the Questionnaire, or with this Board if the Questionnaire has already been filed. It should be typewritten on one side only of white paper of the approximate size of the Questionnaire and should be as brief as possible.

> J. O. H. PITNEY, Chairman.

More information reported with respect to dain of a service of the reported with respect to dain of a reported or respectively from mention respectively. I would be a server of the respective of the respective

Returned hy her Edison
Comment
April 18,1918.

Mr. Edison:

About that small motor. It has been quite a big problem. Langley went around and could not find anything like what you want accept at one place, and that was the Grockerton of they had made a few motors almost identical with wint you want, and they had made them for the Signal Service Corps.

They told us this confidentially. Therefore we could not give them away is a 1 telephoned to our friend Sutier in wanning ton the state our difficulty and I asked him to go see the head of the Signal Service Corps and to ask them if they had any small motors and whether they could spare one for you. Hetold them just that you wanted, see Science of the Signal Service Corps and to ask them to the state of the Signal Service Corps and to ask them to the state of the Signal Service Corps.

made by the Grocker-Messler Co., but they had had some small motors made by the Grocker-Messler Co., but they had all been sent down to the Pigean Service Corps Laboratory at Little Silvor, H.J. to the Pigean Service Corps Laboratory at Little Silvor, H.J. to see the Officer In Charge. He told Langley that the Crocker Wheeler Co. had made them some small motors like what you wanted, and that if the Crocker Wheeler Co. could obtain the permission of the Signal Service Corps, they could make one for you.

went to the Crocker-wheeler Co. and told them. They stated it was no use writing or telegraphing. They can be made of the whole of the state of the was no use writing or telegraphing, but they note a man going down to Washington in three days and lay but to yet the permission of the Signal Service allowing them to build one of these motors for your telegraphic allowing them to build one of these motors for you can be supported by the state of the service of the servi

of junk, discovered a small motor with ball bearings, that, with some reconstruction and rewinding, will probably answer your purpose. We have been working on this, day and night, and expect to complete it londay. If so, I will send it down in care of one of the Officers of the Eallory Line steamer, sailing Tuesday.

General Electric Co. and is to be finished about nox tuesday.

If it comes time enough, I will send it down to you. If not. I
will keep it here until you come, and also the other crocker-wheeler
motor if they cam get permission to make it for you.

We have done everything possible, as you will see, and I am only sorry that we could not get this motor as quickly as you wanted, but it is very special.

Jo: Thomas (C. Edisore From: a. Gerbode. P.D. Payne. light stabalizer March 3, 1918). March THathw140 ciclualtime indays 23 /4 @ 4000 per week each 2374 clays 158.33 Tota Plime du 316.66 Lix ball bearings (S.K.M.) 6 0.50 March 25, 1918. Reid from M. Edison -U mount dut 251.66

## WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT	DELVIOERE BROOKS VILLY
CHECK	
	Cir. c 16 1918

END the chimite Triberon whim to the series on seek broad, which we benefit greated to the series of seek to the seek to

April 18,1918.

hour-admiral k. Strother Smith, U.S.H., Havy Doppertment,

beshington, | .C.

weshing; con,

Hy dear admiral: .

Allow me to haind you herewith our Laborators bill for experimental well doon by Mr. Edison covering a period. January Slat to Harch Slat, 1918, at cost, encounting to \$11,012.78. This bill is cent to you in duplicate, certified to by Mr. Edison.

whom the check is ready, you can forward it to me as usual.

Yours very truly,

Acsistant to Mr. Edison.

A/5043

Enclosure.

4.oril 18.1916.

Hon. Howton D. Bakor, bocretary of War, Washington, D. C.

Doar Cr. Societary:

Allow no to hand you horotith our laboratory bill for experimental work done by ir. Edizon covering a period, January Slat to Harch Slet, 1918, at cost, amounting to 77,351-15, 2his bill 4, sont to you in duplicate, contified to by ir. Edizon.

to me as usual.

Yours vory truly,

assistant to in. Edison.

A/5044.

Enclosuro.

# CROCKER-WHEELER COMPANY

MANUFACTURERS OF ELECTRIC MOTORS, GENERATORS AND TRANSFORMERS

ALTERNATING AND DIRECT CURRENT QUOTATIONS ARE BINDING ONLY WITHIN TWENTY DAYS FROM THEIR DATE

N REPLY PLEASE REFER TO



AMPERE, N.J., U.S.A.

April 18, 1918

Mr. W. H. Meadoworoft, Thos. A.Edison Laboratory, West Orange, N.J.

Dear Sir:

In accordance with advices received from the Signal Corps, U.S. Army, Washington, D.C., we are delivering to you One () 36-watt, 6-volt, direct ourrent generator, self-exciting, made for wind drive airplane service.

Thie machine is the property of the Signal Corps, and instructing us to deliver same to you, the Signal Corps request us to say that you should make no change in the machine without first taking the matter up with them and getting their approval.

In case you should desire to make any changes in the machine, you should communicate with Captain G.Francis Gray, Signal Corpe, U.S.Arny, Washington, D.C., advicing to what extent you desire to make changes, and he will let you know if the Department approves.

When you are through with the machine, you are to dispose of it in accordance with instructions you get from the Signal Corpe.

Youre very truly,

CROCKER-WHEELER COMPANY

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESIDENT,
WILLIAM L. SALINDERS,
CHAIRMAN,
BENJAMIN B THAYER,
WICE CHARMAN,
THOMAS ROBINS,
BECRETARY.

OFFICE OF THE SECRETARY 13 Park Row, New York

APR 18 1918

To the Members of the Naval Consulting Board:

Please be advised that the next meeting of the Naval Consulting Board will be held on APR 27 1918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clook and the formal meeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary, NAVAL CONSULTING BOARD,

ser gurs

april 19,1918.

ir. 3. R. Silver, c/o of dr. hickmond Lovering, Special Agent, Dopt. of Justice, LSD Broadway, Bow York, N.Y.

Deer Er. Silver:

I have received your note of restordey, together with your expense account. The latter h a been duft, d and nont on to Lr. Spindle for his attention.

I can tainly was durawized to so the most-targe, but I have quietly Correction It, as I mapped I ought to do to. Undouble'ly you have an interesting story under your hat, and I shall look forward to the hearing of It with anticipations of make interest.

are iddeed and the landford are besided to lower to be the control theodog. In the 15d instant, and will come right that gift through to heath and though how. The remainder of the party will probably leave the same day on the scaled, and come on by the water route. I have the same of the party when instant and turning and water to the land of the land

a procume that you are looking forward to the day when you releas the croad and proceed further with your experimental work, as I understand you left it at a very intercepting moment.

with kindost roger's, I remain,

Yours since oly . -

../6066.

April 60,1916.

Er. Conover Fitch, Vice-Pres., halthum which Company, halthum, funs.

Dom Sir:-

and summer you very kindly extended nome assistance to Mr. Edison in his Government experiments by the last of a upocial eight-day movement.

Er. Edison desires no to journ the never to you and to extend his cordial thanks for your kind cooperation in this matter.

The movement will go forward to you by Express, propaid.

Yours very truly,

Applicant to Er. Edicon.

4/5369.

W.W. I-EXP, WORK

## EXHIBIT 18.

April 20, 1918.

## 3.75" Tranch Forthe Adaptor Fluc:

The Government is ready to immediately place an order for 100,001 of these plags, delivery to start in from 6 to 0 weeks, the total amount to be given out being 600,000.

of this lot of 600,000 to be given out, Gp tain linton stabes that we used to the manner. This will productly be 600,000 to tent with. We are assured that all of the equipment we may purchase for this part will be kept boug, at least for the length of time the war will last. This came to stated officially, but is based on the fact that the 600,000 new being given our makes a total of 1,300,000 sine famoury lat, and there are said to be more to follow. In. Ocean vencion for this statement, at he har soon to requirements from the Procurement Division, and assumed regal to or exceeding the owners allowed to 500,000, and assumed equal to or exceeding this. Objects in the rise of the procurement of the procureme

Charafore, the Planning Board recommends to the Executive Committee that an appropriation be made to the Phonograph Torks of \$10,000, to cover the gravehase of as more as I Serially abstract Server Province for the numericature of this Plug, this sum also covering the moving of equipment and installation of Same.

It is recommended that now machinery be purchased and not old machinery, as the difference in price is not great and now machinery coviously gives better service.

The floor plan layout of the Sur Wooth Building has already been starte, for the installation of the new machinery.

The Planning Joing recommends to the Propulsive Toughtton for very sorious consideration the modesafty for doin; Government work on an Guour day besits, which would appear to be compulsory under the provisions of an act of Congress dated June 9, 1912, a copy of which act is on file here.

The Beard foels that as this will effect the general labor situation throughout the Edicon organization, it is a subject for serious consideration and a decision on it must be reached at once, or we may be prevented from hundling the Government work contemplated.

-----000-----

April 22, 1918.

Mr. Thomas A. Edison, Key West, Fla.

My dear Mr. Edison:-

I thank you very much for your letter of April

It is somewhat comforting for me to know that you too have been up against the same Burseu chiefs who have been blooking progress in the anti-submarine work. Instead of their helping to win the war, they are the very men who, in my opinion, are most responsible for the continuance of the war.

I am satisfied, and anyone else who had used the latest detectors would be satisfied, that their adoption on a large scale would put an end to the submarine, and that means an end to the war, but the old fogics are not willing to admit that the lary needs any height and the large scale which is a submarine, and the second of the large statement were made by you, and it believe it unless the statement were made by you, and submarine the statement. If this were done, it would probably lead to the retirement of the majority of the present Bureau chiefs and the substitution of younger men and osseibly some civil the substitution of younger men and osseibly some control the substitution. But there will not be any improvement until you explode.

Sincerely yours,

THOMAS HOLING

15.

# [ATTACHMENT/ENCLOSURE]

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RECEIVED AT COR. MAIN ST. & ESSEX AVE., ORANGE, N. J.

62NY H. 7 TELEPHONE ORANGE 4361

JACKSONVILLE FLO 932 AM APRIL 27-18

THOS A EDISON

EDISON LABY ORANGE NJ

SACHEM AT JACKSONVILLE LEAVING FOR NORFOLK SUNDAY.

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NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON,
PRESIDENT,
WILLIAM L. SAUNDERS,
CHAIRMAN,
BENJAMIN B. THAYER,
VICE CHAIRMAN,
THOMAS ROBINS,
ECCRETARY,

April 29, 1918.

Mr. T. A. Edison, President, Naval Consulting Board, Orange, N. J.

Subject: Vieit to New London, Conn.

Reference: Telephone conversation with Secretary of the Navy this day.

or the may mile day.

Enclosure: Copy of letter to the Secretary of the Navy.

Dear Mr. Edison:

 The arrangement which beet suits the convenience of Secretary Daniels is as follows;

> (a) He will leave Washington on the midnight Friday, arriving at Pennsylvania Station about 7 AM Saturday, and go immediately to the Bureau of Information at Grand Central Station to join us.

2. I will have two cars at your house Saturday morning at 548 AM. One of she bo care will take us in and the other own will follow in came of pumoture. We will go to the Grand Carrel Station, and I will take you to the dining room. I will then go to the Sureau of Information and await the Secretary, escorting him to our table.

I have arranged for transportation for yourself, Secretary Daniele, Mr. Saunders and myself, as Mr. Saunders desires to be present at the test.

4. I have arranged with Captain Hepburne, commanding the submarine base to meet us at the dook at New Londong and we dan proceed immediately on the test.

5. The Secretary will return on the "Colonial" leaving New London 10:33 Saturday night, so he can arrive in Washington

April 29, 1918.

Sunday morning in time to keep an appointment there. Summer anything if time to deep support means there one any age of the vestigated the device, you will place stay there and thoroughly familiarize yourself with the apparatus in order that you may advise him of the efficiency of the device from a technical etandpoint. I will remain in New Mondon se long as you remain. It will not be necessary for famford to go further them New York, will not be necessary for Hamford to go further them New York, and I am advising him accordingly.

- 6. I am going to New Haven to-morrow morning to witness teste on some device which Lindon Bates, Chief Engr. of Submarine Defence Association wishes to show me. His boat will take me to New London, and I am arranging to have a conference with the men who have the submarine apparatue in charge on Tuesday evening. I will spend Wednesday conducting tests on the apparatue and will work out an itinerary for Saturday. I will return to New York not later than Thursday afternoon and will re-port to you in detail. I will then remain in Orange Thursday and Friday, to go with you to New York Saturday morning.
- I will take my camera along in order that we may have graphic illustrations to embody in such report as you may make to the Secretary subsequent to your tests of the device.
- If Mr. Meadoworoft will ommunicate with my Secretary, my whereabouts can be ascertained at all times during my absence.

## [ATTACHMENT/ENCLOSURE]

# NAVAL CONSULTING BOARD

### OR THE UNITED STATES

THOMAS A EDISON,
PARSISENT,
PETER COOPER HEWITT,
THE PROPERTY WILLIAM L. SAUNDERS. THOMAS ROBINS.

- . . .

OPPIOR OF MILLER RESSE HUTCHISON, E. E. PS. D. MENDER AND AMERICANT TO THE PREMIDENT OHANGE, N. J.

April 29, 1918.

Hon. Josephus Banicls. bearothery of Mavy, Washington, D C.

Subject: Visit to New London, John.

Heference: Telephone conversation of this day.

Enclosure: Jopy of memorandum to Ar. Edison.

My dear Mr. Secretary:

- I have arranged as follows; 1.
  - (a) Mr. Edison and myself will join you at breakfast ar. Action and specif will join you at broakfast at the main resturrant, crand contrad Torminal at about 7:16 AM, Saturday May 4th. I would suggest the throat you arrive at Grand Journal Torminal you have to the Bureau of Information, Main donourse whore I will be ammitting you in order that I may essent you directly to the restaurant.
- I have bought tickets and drawing room for; 2.
  - (a) Yourself,

  - (b) Mr. Edison, (c) Mr. E. J. Saunders, and
- (d) and mysolf, to New London, Conn., departing on the 8:31 train, MY NH & M ER.
- Captain Hepburno will meet us at New London Station and we will proceed immediately to the work in hand.
- 4. I have received and will purchase for you a section on the "Oolonial", leaving New London at 10:35 FM Saturday and arriving at Emshington at 10:50 AM Sunday morning. at 110 on able you to retire early and get a good might great, and will obgite the measurity of your hurrying to New York to ontoh the midnight train from there.

# [ATTACHMENT/ENCLOSURE]

Hon. Josophus baniels.

2 - April 29, 1918.

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON.
PETER COOPER HEWITT.
WILLIAM L. SAUNDERS.
THOMAS ROBINS.
EXCHETARY.

18.1 X

OFFICE OF
MILLER REESE HUTCHISON, E. E. PH. D.
MEMBER AND ASSISTANT TO THE PRESIDENT
EDISON LABORATORY
ORANGE, N. J.

5. If Mr. Edison has not finished the work in hand by Saturday night, he will no doubt, remain over Sunday at New London, Jona.

Respectfully,

MEMBER

ERH-wrs.

Copies to Mr. Edison, Mr. Robins, Mr. Baunders, Capt. Hopburne, File.

April 29,1918.

My door Mr. Daniels:

I have received your favor of the 17th instant, in regard to visiting the Laborator; at New London.

I shall be glad to go with you at any time that suits your convenience. Floate let me know when you propose to go.

Yours sincorely,

Hon. Josophus Daniele, The Secretary of the Havy, Rashington, D. C. MV Edison

Langley says Hiere is no stock threat

bearing made escartly 25" This is the necessary

Escartly 25" it willhave to be specially -Meadowerof Haufrice

Ins. Edward: - Kegarding Harring:

eye, he has received billis a.

follower:

Hospital - in Tungank # 1100 La Thomson's Hill

Will you kindly like for prayment,

to be charged 5005. MANY

Henry a

Naval Consulting Board and Related Wartime Research Papers Correspondence May 1918

May 1,1918.

Commandor I. Joyco, Superintendent, ULS Haval Station, Key West, Fla.

Dear Sir:-

Having roturned to my Laboratory horo at Jrange. I look back upon my rocent sojourn in Key look mit pleasant recollections of the many courtesies that were extended to me by you and cother corrons connected with the U.S. Haval Station. Let me assure you of my appreciation of the attention you showed to me and to the members of my utaff during the period of our cter in Key.

Yours very truly,

## [ATTACHMENT/ENCLOSURE]

They treat N. R. Ravne Statem.

It W. Wette, Change Marking Sty. Persing My 5 Vic.

Cliffen J. Bailey Syc. Millie Forta.

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	CLARENCE IL MACKAY, PRESIDEN	CHECK	
COUNTER No. TIME FILED	ELEGR	AM	North and Post Offi
The Postal Telegraph-Cable Company (Incorporated) tran			IE DALK OF THE STEEK
SEND the following Telegram, subject to the terms on back hereof, which are hereby agre		ATENT No. 40520]	- <u>5</u> -
	Morfolk, Va.	May 1,1918.	191
To			
Edison Labo	oratory, orange, N.J.		mi vo
	Sachem at II	orfolk expect to ar	TTAB
Hew York Fr	riday		
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COMMERCIAL CABLES

PRESTON S. MILLAR,

CLAYTON H. SHARR PHD. TECHNICAL DIRECTOR.

F. M. FARHER, M.E.

## ELECTRICAL TESTING LABORATORIES

GENERAL OFFICE AND LABORATORIES

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Kellew Ja

Mr. Wm. H. Merdoweroft, Thomas A. Edison, Ornnee, R.J.

My dear Mr. Meadoweroft:

performed by ir. 1. Little of these laboratories for ir. Misson as performed to the work which he is adding our Government, cost as in the way or direct these can expense works. 8. This tiquer loudes no overned of my kind whetsoever.

It is my impression that Mr. Edison has an ellowence from the Reval Conculting doerd with which to defray the from the sevel Community Source with which to serrey the exponence of his experimental work in this connection, and that the expenses of others are being defrayed from this innative the expenses of others are being defraped from the controlled of the case, in it you think estimates to the extention of the conditions to the extention of the conditions in shortest orthage. If my understanding of the conditions in shortest or it or emy other recent his algorithm would prove emberrassing to you, we shall be clear the conditions the matter and the conditions the matter and the conditions the conditions of the conditions o this case as we did in the former instance of the work performed on Long Island.

Yours very truly,

Preston S. millar.

General Manager.

2.8.i./P.



THE NEW YORK EDISON COMPANY

J. w. C

May 1, 1918.

Er. Thomas A. Edison, Orange, New Jersey.

My dear Mr. Edison:

We have given careful consideration to the papers submitted with ir. Meadoworet's letter of April 17th with reference to the Schmatchla Furnace for the "Smokeless and Wastoless Combustion of Soft or Situations Goal"

This furnace makes use of the alternate system of firing which was developed in the locomotive field many years ago and the principle of introducing auxiliary air above the fire and through the bridge wall and side walls is almost exactly similar to the old Jeneks furnace or setting for return tubular believs which was so common twenty to twenty-five years ago.

We find that there is nothing now about this system or its methods of application. East of the statements in the memoranda are undoubtedly true and the introduction of supplicametary air facilitates smokeless combustion provided you do not burn too much coal per square foot of grate surface.

The scheme is not new or original and it would still remain a question of firing which if it is carefully done will secure results which are likely to be quite as good without the device as with it.

Yours very truly,

Y (AMM) - Vice Promident CONMITTEE ON PUBLIC INFORMAT

SERVICE BUREAU CORNER FIFTEENTH AND G STREETS

WASHINGTON, D. C.

TION AVAILABLE AS TO OFFICIALS, FUNCTION, AN LOCATION OF ALL GOVERNMEN

May 1, 1918.

Mr. Thomas A. Edison, President, Haval Consulting Board, Washington, D.C.

Dear Sir:

The Service Bureau (created by Executive Order of March 19, 1918) of the Committee on Public Information, has opened an office at 15th and G Street, N. W., in the rooms formerly occupied by the uptown ticket offices of the Pennsylvania Railroad.

This Bureau maintains an up-to-date card index directory of all Government Departments, covering officials, function and location. It serves as a source of information for all men coming to Washington in connection with Government business; for all Govornment Officials; and, as far as possible, as an inter-department olearing house.

We desire to serve all Govornment Departments in every way possible, and will be glad to have you refer to us, whenever you are in doubt as to their proper destination, all parties coming to you on Government business other than that belonging to your Departments; and to forward to us all letters of inquiry regarding Government business, which do not belong in your Department, and about the routing of which there is uncertainity.

This tooks like to very product to the fall fact. 1 Gerberger 160 Celler of Derodor, Service Bureau.

1 Gerberger 160 Helder 16 Perfer 160 Here Very truly yours Mr. Edison:

W. E. ATKINS, VICE-PRESIDENT	NEWCOMB CARLTON, PAXMEENT		BELVIDER
	THE THEO	CHECK	

SEND the following Telegram, subject to the terms on back hercef, which are hercely agreed to

Key West, Fla., May 2,1918.

Thos. A. Edison, Orange, N.J. or own disoretion

Do you think it savisable to bring motion pictures love and saving absolutely sure they are all 0.K. before disturbing apparatus here. Mochency knows place to develop socrety. Work will take two days. Oan arrange so that work here will not be interrupted.

+

May 2,1918.

4 P.H.

Mr. John Hanloy, 571 Huntorton Street, Newark, N.J.

Doar Mr. Hanloy:

will you please take the train tonipht from formal Central Dopot leaving at 11:45 P.H. which will carrive at Hew London at 5:15 tempers worships. On to the liotal indican by Dr. Hatchison. Hr. Micon without you to your to Dr. Hatchison at the Hotel early towards or the contral to Pr. Hatchison at the Hotel carry towards worships.

If you take a sleeper, you can go to the Grand Contral at 10:00 o'clack and go to bod if you want to.

The train goes on to Boston, so you had bottor arrange to have the Porter call you so that you can got out at Now London.

Yours vory truly,

WHMenoowaaf (
Assistant to Mr. Edison.)

Cy to Bldg. 4, Laboratory.

> S. G. Warner, U.S. Havel Station, Key West, Fla.

Use your own discretion about

Motion Pictures.

Edison.

Sout by Haa

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
WILLIAM L. SAUNDERS,
BENJAMIN B. THAYER,
THOMAS RODING CONTRACT
THOMAS RODING CONTRACT.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

MAY 3 1918

To the Members of the Naval Consulting Board:

Please be advised that the next meeting of the Naval Consulting Board will be held on MAY11198 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clook and the formal meeting at ten.

Very truly yours, THOMAS ROBINS,

Secretary, NAVAL CONSULTING BOARD,

Per Sur

Apparatus MB 5 tube.

Sheet No. 1 Test No. 1 Date May 5,1918.

J. Hanley. OBSERVER TIME

H. M. S. Hear Submarine motor started. 10 53 15

Sounds as though another motor was started. 54 30

Same as at 10 53 15. 54 45

There seems to be an occasional knock. 55 45

Noticed great variation in intensity. 56 20

R. P. M. 138. 57 20

Very plain 59 00

R. P. M. 132 Dying down in intensity. 11 -- 10

R. P. M. 138 3 15 11

Getting faint. 4 15

R. P. M. 144. 7 30

People walking on deck, lot of noise which interfered.

9 50)

Lost 12 50

Picked up again by adjusting. Seems to be very plain now R. P. M. 132.

Sound diminishes Apparatus very sensitive to direction. at 10° shift of the instrument. 14 35

R. P. M. 140 18 20

Lost. 20 30

Hear again very plain by adjusting instrument.

Lost again. Searching all around scale.

26 Hear slight roar, but cannot count the R. P. M. 11 38 40 ing qualities lost.

Listening apparatus installed on submarine chaser No. 19. (110 ft. wooden bost)

Chaser remained still.

Submarine 0 2 was instructed to run from Chaser in a straight course at a speed of 4 knots per hour.

(Speed of G 2 submerged ie 10 knots at 360 R.P.M. of motore) Calculated R. P. M. at 4 knote should be 144)

Weather fairly calm.

Apparatue was very quiet until submarine motors started. At first there esemed to be a number of motors running which made a very confusing noise, but the sound got more uniform and periodic "Apparently" when Submarine got under way.

At times the intensity would die down for a brief period.

Can't explain the reason for this variation in intensity.

The apparatus was very sensitive to direction, a movement of  $10^{\circ}$  on scale would diminish sound considerable.

People walking on deck directly over apparatus would interfere at times.

There was also an occasional hissing sound in right ear-tube, due probably to some fault in the tube or button construction.

At times would lose sound, but by adjusting instrument would pick it up again at another bearing.

The Chaser being free to drift in any direction accounts for this bearing change.

The Character of the submarine noise consists of three distinct bests to the revolution. One beat being of greater intensity and of longer duration than the other two.

The predominant beat is accompanied occasionally by a sort of a

-3-

glub, or big water bubble noise.

After listening 45° 25° could just hear the predominant beat which died down to a slight cough and finally turned into a steady roar. RPM could no longer be counted.

Hearing time was 45' 25".

Average R. P. M. Sounted was 137-1/3.

Calculated distance submarine could be heard was 2. 89 nautical miles, or 3.32 statute miles, or 5860 yards.

Calculated speed of Submarine was 3.81 knots per hour, or 386.8 ft. per minute.

Maz no3 C.O. Nazno. NaoH.\_ naoH.\_

Apparatus MB 5 tube Vessel S. C. 19

Sheet No. 1. Test No. 2. Date May 5,1918.

J. Hanley. OBSERVER TIME

## H. M. S.

- 12 42 30 Hear engine running. Also hear noise like a horn blowing.
  - 44 30 Great variation in intensity.
  - 46 20 More uniform now. R. P. M. 140
  - Hear a steady roar in ear tubes. 47
  - 47 30 Submarine is very plain now and the roar is lost.
  - 48 15 R. P. M. 132
  - Hear horn blowing again. 50
  - Character of submarine noise same as in test No. 1. Rolling of S. C. 19 gives a lot of water noises in instrument. 52 30
  - R. P. M. 132. 66
  - 59 10 Water bubbling noise in ear tubes interferes, also the water washing against side of boat.
  - Lost through other shipping interferences. Can't count R.F.M. nor distinguish from other boats. 1 1 30

This test same as Test No. 1, submarine running awash instead of submerged.

No noticable difference in character of sound.

Notice great variation in intensity when submarine was close.

The sea was quite rough while this test was going on. was quite an interference due to the rolling of the Chaser, and also the waves slapping against the sides.

There was also a hissing and bubbling noise in eartubes.

The Submarine could only be heard in the lull periods.

The horn that was heard was some sort of signal on the Destroyer Jouett.

After listening 19 minutes, could not count R. P. M. nor distinguish submarine from other boats.

Hearing time was 19 minutes.

Average R. P. M. counted was 134-2/3.

Calculated speed of submarine was 3.68 knots per hour or372.9 ft. per minute.

Calculated distance submarine could be heard was 1.16 knots or 2350.93 yards.

RECEIFT FOR REGISTEED ARTICE. No. 2411-1

May 6,1918.

Hr. J. J. Butlor, c/o Gonoral Board Room, Hevy Annox, Washington, D. C.

My doar Mr. Butlor;

for the Setrointy of her. It can underly herealth a letter for the Setrointy of her. It centure cone continental matter, and her Edicon does not tant it to go through the regular channels, but sould like to have you go ever and hand it to he lakes performing, if pecials, or if not peculia, or if not peculia, or if not peculia, where the set of the se

Daniels. I am also enclosing a letter to Secretary Daniels. This is also very confidential, and Er. Edicon would like you to hand it to ir. Daniels only in person, and not to anyone else.

Lot me thank you in advance, in behalf of

bith kindost rogards, 1 romain,

Yours sincerely.

## [ATTACHMENT/ENCLOSURE]

Hay 6, 1918.

My dear Mr. Daniols;

I was out all day resterday with submarines, chacors and torpodo boats and made all the proper experiments. So I can now give you accurate information unaccompanied by exaggaration.

Any time you want me to come down I will do so, but would request that you had I only be present at our interview.

Yours sincorely.

P.S. I have arranged that this letter shall be delivered to you in person.

## [ATTACHMENT/ENCLOSURE

Zecy 10-I Was out all doep with second Chairs & Jospedo Coxes 1 made persper Experiencely So I can give you accurate information unaccomprened by Energyeration & # aregting you want me to come down well do so, but would signed that you of only GE present at our interview. P.S. I have arranged that this letter

shall be delivered to you in person.

J. S. BACHE & CO.

Oberha

Mr Thomas A Edison, West Orange, N.J. Low May 6 1918.

Doar Sir:

Woman My name is arthur N cheeler, a brother to the control of the control

I am at present working for the above named firm but I would like to take a position as brother did . I have two years training in the electrical and actentific course and went to the hebrew technical I stitute. I am ambitious and intil recently received my disoharge from the united States Army for minority, after I have been in one year. Will you please give me a chance as you did to my brother, and in a very short time I can prove my worth to you. I have a knowledge of geometry, metal spinning, electrical experiments and I would need but a month practice to regaing to my mind the things I have studied so long ago.

May I have the honor to hear from you in the near future and perhaps have an interview with you some Saturday after\_ noon if convienent for you.

Hoping that you give this application a little consideration , I am, Sir  $\,$ 

yours very truly,

InthuM lesler

ame,gd

5116

Nahant, Mass., May 6, 1918.

Mr. Thomas A. Edison, Orange, New Jersey.

Dear Mr. Edison:

Based on the knowledge we now have regarding cavabilities of detection devices and the conditions of submarine operation in European Waters, there is no doubt but that if America will produce and equip an adequate number of suitable submarine chasers the menace from the submarines can be reduced to a negligible value and the future safety of America's interests on the sea insured. It is my opinion that suitable chasers should have the following characteristics:

SHIP: About 200 feet long, strongly built to withstend depth charges, sen worthy, 22 knot speed, free from unnecessarily noisy projecting stern or strakes, provided with quickly operating and quiet running anchor gear, all auxiliaries capable of being instantly silenced, boiler and power plant laid out for quick stopping and sterting also to permit getting under way at full speed in minimum time on short notice after hours of drifting, main engines to make minimum possible noise while under way at all speeds.

ARMAMENT: Two guns to equal or outrange those on the submarines but small enough to permit training from a vessel of this

size; machine guns; at least twenty 300 lb. or heavier denth charges with suitable projectors, and a denth charge thrower with a renge of one thousand yards for 100 lbs. of T.N.T.

DETECTION DEVICES: Must be suitable for running, drifting and anchored patrols, as well as for the chase; the best forms of attached to the hull devices, overboard drifter sets, towing listening devices, and towing contact devices should be adopted; existing devices, completely developed, adequate for this work are now available. Future developments will be in the nature of refinements and improvements and it is unnecessary to consider them before undertaking this chaser program.

COMMUNICATION: Wireless telephone (5 miles radius), Wireless telegraph (100 miles radius), special shapes, direction and range indicators, truck lights, search-lights with signal shutter, speaking tubes for communicating between devices, plotting room and bridge; secret recognition signalling devices, ranging devices to permit the location of any ships in the tactical group to be determined by the other ships, during all weather conditions of day and night are essential.

<u>FERSONNEL</u>: The actual destruction of a submarine requires quick, snappy action and too much emphasis cannot be placed on the necessity of a high grade, trained crew, preferably commanded by a regular Mavy officer of destroyer training, with a second in command known as a hydrophone officer who will be responsible for listening under chasing conditions and responsible for the decisions reached from the listening results obtained.

### - Comments on Chaser Characteristics -

There is no reason to believe that if the Navy Department decides to proceed and an adequate number of ships, which as you know should be at least a total of 350, are produced there will be little difficulty in filling any of the conditions outlined above with the exception of that of the speed of the chasers. A minimum of 22 knots is essential for the following

The most frequent contacts with enemy submerines may be anticipated at night while the chasing patrol is lying drifting and sound contact obtained with an approaching submarine which is either bound to or from its base of operations, or toward a light to locate itself accurately before going onto a ship leno. There are German submerines now, according to the best knowledge available, having a surface speed of 17 knots and others about to be put in service wit: a surface speed of 20 knots. Since it is necessary for a chasing boat to either clow down or entirely stop to listen, and since these allow downs or stops must be made at relatively frequent intervals, an excess speed over the pursued boat is absolutely necessary.

We in Captain Leigh's Party ourselves experienced two

instances of submarines operating at verhaps 16 knote leaving our 10 knot trawlers and the helpless, disheartening feeling under these circulatences can be better imagined than evrpossed. It is obvious that any seed less than that of the pursued submarine will result in a similar condition. Roughly, in my opinion 80% of the contacts with enemy submarines will occur while the submarines are on the surface at night and under these conditions it is my firm belief that the number of times the chasing boats can close up on the submarine after once etarting a chase will be about as follows:

18 knot boat - 10%

20 " " - 60%

22 " " - 100%

If we had 18 knot ships a year ago they would have done good service, but if we are now to build ships for chasing submarines it would be evtremely unwise not to anticipate the future developments of the German submarine which undoubtedly will be in the direction of higher speed. Twanty-two knots is really the minimum that should be considered on boats/already started and higher speeds would be better if obtainable. In addition to the imperative need of speed to overtake a submarine running on the surface there are the incidental advantages of first, more quickly getting to the point where a submarine has been reported thereby increasing the chances of obtaining sound contact with it and, second, the chance that a submarine eeen on the surface during the late hours of the day can be overhauled

and made to submerge before dark. Having once compelled a submarine to submerge the chances of destroying it are greatly increased.

It would be unwise to slow up or change the Ford program but each succeeding lot of ships should cortainly have incorporated in their design all the requirements found essential by those in closest contact with the anti-submarine work.

If we can supply you with any more specific information or be of use in any way in furthering the chaser program, whease feel perfectly free to call upon us. I am emclosing quotations from two letters from ir. Scott in London which give a little side light on the Admiralty's position and the possibilities of the devices. It should be born in mind that the probable sinking of a submarine by our party, and by the three boots referred to in ir. Scott's letter are I believe the initial instances where three chasing boats started out with the intention of hunting and getting a submarine and were successful. This is a radical advance over the destruction of submarines by accidental contact of destroyers, etc, and if carried out on a considerable scale should have a tremendous influence on the morale of the German submarine craws.

Very truly yours,

C. E. Eveleth.

Quotation from letter from C. F. Scott to C. E. Eveleth, dated London, April 3, 1918.

"The fourth Hunting Patrol Unit claim to have destroyed an enemy submarine off Portland on March 13th, and the Admiralty are investigating the claim. The unit was equipped with S.C. C-Tubes (now called Inboard C-Tubes) and Hash Fishes, and was making a running and stopping patrol. At 5.00 a.m. they took in the fish on 4.M.T. JOHN CASEWELL, and the "O" tube listener went on his watch, and on the very next stop, he heard the sound of a submarine propeller. The listener with whom I later talked, said that he gave the Commanding Officer a bearing of 120°, and about 700 yerds distance. The trawler's course was changed, the distance run, and on the next stop, he obtained the sound at 10°. The other two trawlers had been advised that sound contact had been obtained with a submarine, and they were then able to give cross bearings with the Fishes, which permitted one trawler to drop depth charges over the spot while the two other trawlers, which had given the bearings, projected depth charges over the same spot. Great quantities of oil came up and later trawling cables met with obstruction at this spot. I have talked with all toree Captains of these three trawlers, and they seem to feel that they did destroy the submarine".

"INBOARD C TUBES. A total of approximately 30 trawlers have been equipped with this type of tabe".

Quotation from letter from C. F. Scott to Dr. W.R. Whitney dated London, April 7, 1918.

"As to the question of 200 ft. chaers. The commonite impression which I have formed from talks with British Officers at the Admiralty and our own Heavy people, is that a 200 ft. chaer built to stey out in any see, properly guand, wither a speed of, let us say, 20 to 25 people, properly guand, wither a speed of, let us say, 20 to 25 people, properly guand, wither a speed of, let us say, 20 to 25 people, a properly guand of the same purposes, would fill a gap which no allied oraft today can fill. The little 110 ft. chaers now being sent over ore distinctly fair weather ships, and from discussions I this toward among our Navy people, they out from their bases for more than four days. One day steaming to their patrol area, two days patrolling, and one day returning to their base. They feel of the thin to to tramped quarters, 20t., but the same they can be a supported and the same command the same than the course of the same than t

"As to what devices the 200 ft. chasers would carry is father difficult to state and will depend entirely on the developments that may crystallize in the next two or three months".

"The Admiralty that definite preference for a listening davise which is part of the ship, gives direction, and which could be repetred and maintained without docking the ship. "Stilling that, a towing device, rugged in construction, which can be used while ship still has headway after engines have been shat down. The higher the coasting speed at which good listening is possible, the better; especially is this true where devices are considered for 22 knot vessels."

SALES DEPARTMENT PATTON PAINT COMPANY

SOLE MAKERS ,
PATTON'S SUN-PROOF PAINTS
MADE IN U.S.A.
NEWARK, NEW JERSEY.

"SUNPROOF"

WESTERN UNION CODES: LIEBERS

Day Twined its to 1918

west orange, is so Key Locat T. to

Attention: Mr. W. H. Meadowcroft.

Gentlemen:

You will doubtless recall that on Pebruary 9th you requested us to ship Mr. Edison, o/o The Commandant, U. S. Mayal Station, Keywest, Florida sample of the Fireproof Peint as used at Silver Lake. Since that time we have heard nothing regarding these samples, except your letter of March 11th, and we were wondering whether Mr. Edison could give us any advices on the subject at this time as to results of the oxpariment, and whether it is possible to take the matter up direct with the Government ourselves.

Yours truly,

CaBuckley SALES MANAGER.

5142

May 7,1918.

Ma. Proston C. Hiller, Genoid Henney, Electrical Posting Laboratorice, Both Street and East End Avo., New York, N.Y.

My doar Mr. Millar:

to your fixor of the let instant. I have consulted for lation on the object of people from his fund the assumt you wantion as inving cort you by vary of direct table and exponence, meanly (354.25). He wiches me to say that if you will lindly sond a bill for the amount we will forum you have headed to age that if you will lindly sond a bill for the amount we will forum you make it is also your bill craimst Thomas A. Edicon, Laboratory.

Mr. Mdieon approciates greatly your kind and group't cooperation with his in the work for the Government, both on long Island and Key test.

Yours very truly,

Assistant to .ir. Edison.

A/0113.

> Hon. Josephus Daniels, Secretary of Havy, Washington, D. C.

> > Letter received. Will be down tomorrow.

THOS.A.EDISON.



Mar 8th 1918

Hr %m H Meadowcroft Accistant to Mr Edicon Orange, N J.

My dear Mr Mondowereft:

Your letter of February 23rd received, from which I note that you have asked Mr Aaron Hill of Lee Amgeles, Calif, to cond Mr Ford a catalog and description of the Hill Camp Ortil.

Up to the present time this has not arrived but we are anxiously awaiting same at which time it willbe brought to Mr Ford's attention.

with kind regards, I am

fory truly youro

General Secretary to HMNRY FORD

May 9, 1918.

my dear Mr. Secretary:-

I was very much pleased that you should have gone to liev inclind submarine base and witnessed the actual locating of a submarine running submerged and in an unknown direction; else that you have afforded really small facilities to the various younger officers of the Havy. Ilke Hopburn, Hohewell end falby, a chance to show what they can do. After you returned I want out all next day with the beats and verified certain details not carried out in the test conducted in your presence.

Lty opinion is that if you back up these young officers and scientific men, give thom the kind of boats they want, and do it quick, that the submarine will be reduced from a serious menace to a minor annoyance.

Yours sincerely,

(Ago) Thro. G. Edison.

Hen. Jesephus Daniels, Secretary of the Mavy. GENERAL ELECTRIC COMPANY
120 BROADWAY, NEW YORK

When york H.Y., May 9th, 1918.

Mr. Thomas A. Edison,

Orange, New Jersey.

Dear Mr. Edison:-

I have copy of Mr.C.E.Eveleth's allicated.

I cannot add anything to his clear presentation of the situation.

I have been convinced for many months of the vital importance of securing recognition, by our Government, of the importance of the program which is briefly outlined by Mr. Eveleth. I have interested myself in helping to forward this program.

I would be greatly interested to learn whether you believe that we are on the right track.

EWR/p.

Very sincerely vours.

Di Rico J.

Hoy 10,1918:

Hr. Arthur M. Chomlor, o/o J. C. Bache & Co., 42 Brondway, How York, H.Y.

Doar Sir:-

I have received your letter of the 6th instant, and regret to say that I shall not be able to offer row a position at this time, as I have all the non that I can use at present.

Yours vory truly,

A/5116.

Ear 10.1918.

Mr. F. L. McRoynolds, Director, Service Buroau, Fifteenth and C Streets, hashington, D. C.

Doar Sir :-

Your favor of the lat instant to Ir-Edison was received and shown to him. He thinks that your Bureau is vory dosirable and should be quite usoful to the Covernment.

we expect to communicate with you from time to time and avail ourselves of your cervices.

As a state, we forward you, horouth, a letter from mion. i. B. halton of the blowco of imprecontative, with which he conds a cop; of a letter from it. J. L. Olbbany of Reseall, lice laxic, asking information relative to enlicting in the series with unlime brunch of the U. S. Ary. Lill you kindly forward this letter to the proper Government official.

Yours vory truly, . .

Assistant to ir. Edison,

A/5126.

Enclosuros.

USS Sachen May 10/18 My den Mr Mesdocroft Will you please see if touch with Wilmind Burd, and get some action an our trepart, things are planed you ere this got been side in bed, hope Very July. Mario, To Starten Irland Shipsbuilding Co.

May 11,1918.

Captain Warron S. Harrie, c/o U. S. S. Sachen, S. P. 192, c/o Staton Island Ship Building Co., Wost Brighton, S. I., N.Y.

My doar Captain Harris:

learn from your note of yeareday that you have been and still are on the sick list. I truct that your lillness will only be temporary, and that fithin a few days you will be fooling as fit as usual.

I called up admired Burd, but found that he was away at low loader. It moved to his Accistant, when I know an accident the load of the loa

All hands wish to be romombered to you very kindly and cond you their best wishes. Please count me in on the whole thing.

Yours sincoroly,

Assistant to Mr. Edison.

£/5130.

May 11,1918.

Mr. E. W. Rico, Jr., General Electric Company, 120 Breadway, How York, H.

Donr Er. Mico:

I received your letter of May 5th, and also Mr. C. E. Eveleth's letter of May 6th, with one lecuroc.

You will be interested to learn that:

1 have reported very favorably to the Secretary of
the Savy on the latest developments at Non-London.

Yours sincerely.

1/5129.

May 13,1918.

. Pation Paint Co., Novark, N.J.

Gentlemen: Atton: Er. A. A. Buckley, Sales Manager:

I have shown to Er. Edison you letter of May 7th, in recard to flipproof paint, of which you sent his a cample to May Lock, Pla.

He wishes me to ear, in reply, that he turns the sample over to the Aristian Section at May best, suggesting that they give it a trial.

Possibly it might be well for you to communicate with the Commanding Officer of that section.

Yours vory truly,

Applishent to Er. Edison.

a/5142.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON. WILLIAM L. SAUNDERS. BENJAHIN B.THAYER. THOMAS RODINS

OFFICE OF ANDREW L. RIKER FAIRFIELD, CONNECTICUT

May 13,1918

My dear Edisons

I regret not having had an opportunity of seeing you while at Washington last week, end am sending you herewith copy of a clipping which I cut from a news-It is barely possible you paper: a few days ago. have seen it, but in case you have not, thought possibly you would be interested in reading the enclosure. With kindest regards, I remain,

U. L. Miller.

#### [ATTACHMENT/ENCLOSURE]

May Lot., 1918

#### THE KAISER'S PRAYER

Oh! Gott, vill you be mine partner?
You don't know who I sa?
You don't know who I sa?
You li'll tell you, Gott, I'm der Emiwer,
Dor Emperer tell you, Gott, I'm der Emiwer,
Dor Emperer tell you der Belginna,
I wan to the same tell you to thest be mine partner,
Und whip det Unclo Bam.
You know I got der Subsartinee,
All Europe mouse pattert now,
be blowd dem all to held in
Bet blowd dem all to held in
Bet blowd dem all to held in
Bet blowd dem all to held in
Dony out yill tell you tell
I not til is sapplied above;
To you til tell you tell you tell
You tell in the same tell you tell
Tell you in him samppilise out,
Tell you fains sampelise out,
Tell you fains sampelise out,
Tell you tell mis sampelise out,
Tell you tell mis sampelise out,
Tell you tell mis sampelise out,
Tell you tell sainly can be noon,
Dot went Battany can be noon,

inications should be addressed to "Division T, Office of the Chief of Ordnunce, U. S. Army, Sixth and B Streets NW., Woshington, D. C."

WAR DEPARTMENT

DIVISION T NEAH/FOW OFFICE OF THE CHIEF OF ORDNANCE

HEW ARMY AND NAVY OFFICE BLDG

In reply refer to No. T

Mr. Thomas A. Edison, Orange, H. J.

Dear Mr. Edison:

Eay 14, 1915. Level leve I note in the "Literature of Explosives" that in 1885 you proposed to electrolyse a solution of soda in a bomb and to use the electrolytic gas as an explosive.

Will you be good enough to let me know if you considered much work successful? If not, I would appreciate your letting me will work you abendoned further experiment when we will be considered the work of the consideration will be of indeed to the Explosive Excellent the will be of indeed in the Explosive Tauch of the Ex Department.

Faithfully yours,

MEVIL MONROE HOPKINS Major, Ordnance R. C.

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON. WILLIAM L. SAUNDERS DENJAHIN D. THAYER. THOMAS ROBINS,

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

May 14, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

Mr. Saunders has today sent the following letter to

Secretary Daniels:

Hon. Josephus Daniels, Secretary of the Navy. Washington, D. C.

My dear Mr. Secretary:

The Naval Consulting Board would appreciate the opportunity of visiting New London as a body in order that all of its members, some of whom have not been there, may make certain observations upon anti-submarine devices in practical operation.

In view of the urgency of this matter, may I request, if you are agreeable to this plan, that orders be issued so that the Board may make its observations beginning not later than Monday, May the 30th?

Respectfully yours, (signed) W.L.Saunders Chairman, Haval Consulting Board.

As the Secretary will probably agree to this plan I would

suggest your advising me at once by telephone if you would be able

to spend Monday at New London, and if you would like me to engage

for you a seat on the 5.10 train leaving New York Sunday afternoon and a room at the Mohican Hotel, New London, for Sunday night. It is hoped that the members would be able to leave New London on the 8 P.M. train for New York on Monday evening, reaching New York at 11.14.

Very truly yours,

Thomas Robins,

per G. C. T.

Eny 16,1918.

Fairfield, Conn.

My dear Hr. Riker:

I am sorry also to have mileof the opportunity of seeing you last wook in tachington, but possibly we may have better luck next time.

Thanks for the copy of the newspaper clipping. I had already seen it, but it beens a second reading.

Yours voly truly,

A/6149.

Mr.y 17,191d.

Major Hovil Honroe Hopking, J. R. C., Office of the Chief of Ordnance, Sixth and B Streets Hw. hashington, D. C.

My doar Sir:-

Your letter of May 14th, 1918, is at

hand.

I made only a few experiments, which were successful as far as they went.

If you use a best and produce cas to reach two pounds per square inch therein, the processor will reach about 14 tens per square inch en egainst 60 tens for 2. s. 2. If you rent to equal 2. s. 2. to prosume in best mar reach about 900 pounds per square inch. About 75 grammes of electrolyte per life in 11 give 2000 pounds per squared inch.

Yours vory truly,

### [ATTACHMENT/ENCLOSURE]

Major Nevil morres Hopicies, and your, of may 14 1918 at hand I Y (only made) a few Experients, which were successful as for as they went sugar If you use a bomb and produce gas to recede 2000 lbs per agreence the presence child succe account 14 long per 2 gr THT the precious in 6 amb much seemoh about gosalk

### ATTACHMENT/ENCLOSURE)

Eby W. H. KNICE IM ]

May 17-196

Sheoretically an explorion of an implime of lydrogen and oxy gran will produce a pressure 14 time as greater as the original pressure when the gases are confined in a chamba.

Shart is -Starting with Ri 14.7 Its personne 2

Risultant purme

I tan per poj in 14 tans per og in.

T.N.T. will give pressures of 60-70 tons
per sg in.
So do as good as the with a
mixture of hydrogen and oxygen
regules an original pressure in the
lomb or chamber of 4,3 to 5 tons
per sg. m.

## NAVAL CONSULTING BOARD

THOMAS A EDISON WILLIAM L. SAUNDERS. BENJAMIN B. THAYER

OF THE UNITED STATES

OFFICE OF ANDREW L. RIKER

May 17,1918

My dear Mr. Edisons

I have your favor of the 16th inst., and while I felt you had probably seen the copy of newspaper clipping which I forwarded to you, yet I thought it might possibly have escaped your attentions

I hope to have the pleasure of sseing you sometime in the near future, and if you are efer in the vicinity of Bridgeport, would appreciate a call from you, if you can spare the time.

Sincerely yours,

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON,
PRESIDENT,
WILLIAM L SAUNDERS,
CHAIMMAN,
BENJAMIN B THAYER,
WICE CHAIMMAN
THOMAS ROBINS,
BEGRETARY,

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

MAY 20 1918

To the Members of the Naval Consulting Board:

Please be advised that the next meeting of the Mayel Consulting Board will be held on MAY 25 1918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clook and the formal meeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary, NAVAL CONSULTING BOARD,

Per S.

Oyster Bay, N.Y., 5/22/1918.

My dear Mr. Meadowcroft:

How that standing a heavy down pour of rain, I have made considerable headway today. Got in touch wearly this A. M. with Mr. Haymond Smith. Made his acquaintance at the Red Cross meeting last hight and made an engagement with him for 9 A. M. today. He took me in his automobile to the different places hereinanter mentioned. He was unnowhead to the contract of the c

No one over there would sell to any Industrial Enterprise - that it is strictly a residential proposition and everything clae is barred and any purchaser would be subject to the consent of the other owners. I may going to inclose one of his map. Without the element of Commandering by the Government, this property would be practically impossible.

Second: The Flat ground between the Sound and Bay which Mr. Edison saw between the two old wrecks and near the Ferry to Greenwich, Conn., belongs to the Jones family who own a lot of property on Long Island and in and around New York and they are very hard to do any business with. Unreasonable in price, and unreliable to do business with. Mr. Smith said they would want Unreasonable in price, and a million dollars for their holding of from 50 to 75 acres. This land is from 700 to 800 feet back from the Channel of the Bay and considerable dredging would have to be done to get boats with any draught to it on the Bay Side. Deep water 27 or 28 feet Deep water 27 or 28 feet on the Sound Side is closer and could be reached with a dock. Large boats come in very close on the Sound Side and the Greenwich Ferry comes in right at the end of it. He could give me no approximate price on this property and said that the owners were simply If any commandeering is to be done I should judge impossible. that these are the people who deserve to get it. He thought they might agree to a ground rent proposition, but they never sold if they could help it. I might also mention that they also own most of the property along Eaton's Neck where we saw them taking out sand for New York, up beyond Northport.

Third: Next to the Jones property on the left as you drive in from the main road there is what they call "The Pines" about 3 errs and told, fronting on the Sound same as the Jones royerty and bridging on the main road. There are 5 lots with two buildings (homses) mext to this he thought could be had for 15000 and about 10 lote with three houses at approximately \$20,000. The lots errs 50 by 100 ft. and are adjoining to the 3-may acres above mentioned. He thought this 3 care (The Pines) could be had for \$11,000 or perhaps less - and perhaps the whole plot 3-mays acres and 16 lots could be had for \$11 to the 3-may acres and 16 lots could be had for sound \$10000.

The Brown property at Bayville (see Liap): This consists of two plots one of 90 acres and one of 30 acres both facing on the Horthwest arm of the Bay and shut in by a drawbridge. The 90 acres has a fine house on it. In front is flat and level and runs gradually back to high ground at the back to the main road. The thirty acres faces the H. W. arm of the Bay and runs back to the thirty acres mades the s. w. arm of the say and runs such the road. Of course, considerable digging out would have to be done to get bests of any size into the arm of the Say, and there is the drawbridge (opening 48 feet on each side) to contend the This bridge is just three miles from the Oyster Bay depot. I thought that perhaps the the transfer and of years and under the perhaps the transfer and other one or both the Brown properties, taken together might give sufficient room for the needs. While they are not adjoining they are close together and connected by the main road. The Pines property would give the Sound water front and the Brown property give the necessary room for the housing part of the proposition. There are very few, if any, houses to be had in Oyster Bay proper, and with no trolley lines, the housing proposition would have to be taken care of as a part of the general scheme. There is other land beyond the Brown place that could be bought if more land is desired. Mr. Smith said he thought the Brown property would cost from \$2000 to \$2500 per acre, but if Mr. Brown could sell all his holdings there he might take less. Said Brown had been disappointed in the support given him to build up a fine residential property and had remarked that he "wished he had never seen it" and thought Brown would be glad to get out for what it had cost him. Could not would be glad to get out for what it had copy have say how much that was. Of course this Fron property, The Pines, and the Jones property are all over three miles from the Railroad. Opster Bay being the Ry. Station. The roads, of course the product of the produ We drove over them. Mr. Smith says the ice conditions in the Bay were very umusual last Winter and that usually naviga-tion is only interrupted for 30 to 45 days in Winter. The Channel has never been known to shift. The tide in the Bay has Channel has never been known to shift. a rise of 7 feet. Average rents in Oyster Bay where there are any for rent, 5 or 6 rooms with modern improvements, Heat and Bath, is about 20 to \$25. Top notch 8 or 9 rooms, \$40 to 45 dollars. Anything higher there is little or no use trying to rent. There are, however, very few vacant houses of any kind to rent. Water is fine and general health excellent. Market for provisions are consists of the Service and Advanced to the Control of the Control of the Service sale. There is one lot of 20 acres on Center Island for sale, but only for residential purposes. Have marked it on map. Held at 34000 per acre.

Fifth: Property at Clemond Landing on Hempstead Harbor. This is a property belonging to a count of Hr. Smith and he suggested that of the Markov and the support of the sup

for housing or Laboratory purposes, and 15 acres on the Shore of Hempstead Harbor, with about 300 feet of water front. An old dock and a good channel. U.S. chart was shows 13 to 18 feet depth. This property can be bought for \$2000 per acre on the Stern, the Dry Goods man of water and about \$1500 on the road. New York, has the property in between. as the Estate of George W. Townsend. The property is known There is a large power house on the adjoing property Bassau Electric Light Co. light to much of Long Island. Across the Harbor are the sund beds the largest on the sound, they say. Boats (tugs and scows) go in and out for New York - 18 to 20 miles away. These properties are not connected except by roadway, but might serve the purpose if properly arranged. Would have water front nearer New York and a lot of 30 acres along side the railroad and just across the main drive a lot of 30 acres more and 40 on the corner, making with the water from 115 acres. The upland 100 acres is beautifully located. --- Mr. Smith has another piece of property right in the limits of The City of New York. If the proposition is not too expensive, it would be a great location from what I have heard of it, Of course, I have not seen it. It is known as The Zeraga Estate on "Old Ferry Point" It has 114 acres, 86 upland, 28 meadowland. Has one and one half miles of water front, upland, so meanowand. has one and one half miles of water if one third of a mile being on the East River, minimum depth at bulkhead 30 feet. The Sound Steamers pass here very close is said to look almost like a stone's throw from the land. It is four miles from a Railway station on the Harlem Railroad. One and one-half miles from the 177th St. Trolley Station and Line It is South of West Chester, bounded on the West to New York. by Westchester Creek. The U. S. Chart shows well in shore 47 feet of water and mid channel 95 feet right opposite the Point. The Probably \$500,000 would buy it. property is held at \$550,000. It seems rather remarkable that such a piece of property so close It might be worth to New York has not been taken up before this. while for Mr. Edison to drive out there and look it over. Being so close to New York it would to some extent eliminate the housing Unless there is some drawback, I do not part of the scheme. Unless there is some drawback, I do not know about, this looks good to me if the price is not prohibitive.

finished today. The water at the Lighthouse is about 1/4 of a mile wide, channel about 300 feet. There was no mention of any price for the properties below life open and from that to \$4000 per acre according to location. Center Island from \$4000 per acre according to location. Center Island from \$4000 per acre according to location. Center Island from \$4000 per acre according to location. Said will promise in \$1000 at our \$1000 per acre \$1000 per acre

With best wishes, I am,

Sincerely yours,

(signed) Charles B. Hanford.

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDIBON.
PRESIDENT.
WILLIAM L. SAUNDERS.
CHAMMAN.
BENJAMIN B. THAYER,
WICE CHAMMAN.
THOMAS ROBINS.
BECKETARY.

OFFICE OF THE SECRETARY 13 PARK ROW. NEW YORK

May 22, 1918,

TO THE MEMBERS OF THE NAVAL CONSULTING BOARD:

Dear Sirs;

At the meeting of the Naval Consulting Board on Saturday please be present at nine o'clock in the morning, as all the members will be asked to sign an important report concerning our recent visit looking into the submarine of turtion.

Very truly yours,

W. L. Saunders,

Chairman,

per G.C.T.

UTS/ct

May 2 sec. 1918.

Whe Colina mitted the Gleafer total on the
Ferry Point this afferments are not as general
Automote Specialists on act as general
The Specialists regarded on faither.

To Truly time A White

To While Charter

"" Project Ather ""

" Project Ather ""

" Charter are 6 White

Fray Both Stiffender ling For her 12 "

Phay Both Stiffender ling For her 12 "

Charles B. Homford.

Charles B. Homford.

Mr. Kaymon Amon delate of
"The Jungo Estate on Old Funy But
in New Joh City.

1/4 Ave (86 ann replanice

1/2 Miles of Water front.

1/3 ga mid on The East River

Come t def Front.

Minimum defect at Ruch Kan line 30 feet.

Channie defect of the Man Sofet.

4 Miles from that Chute Staten Melone By
1/2 Miles t Dolly Some Constant Miles.

5 Miles t Ellewater Staten is the John.

Shade R. Honoford.

May £4,1918.

Black Diamond Powdor Co.,

Pittston, · Pa.

Contioner:

Do you make ordinary Charcoal black pondor?

If no, would you consider making a small batch of a
special form of black powder, say, 500 to 1000 pounds?

It is to be used in a Covernment experiment,
and if successful, they will want it in quantities.

Young very truly;

P. S. Kindly addrons your roply to:
Atten: Er. W. H. Mondoweroft.

## [ATTACHMENT/ENCLOSURE]

Chareout black peroter?

Liso, would you consider?

Meching a succeed battel uf a special to 1000 peroter;

form of dich peroter;

It is to be used in a government exponental they will would be used they will would would be a grant to a quality.

May 26. 1918

Deas MY Meadowcroft

Following the above you gave me a fundage ago on the telephone, I am bearrill enclosing a delter for My Edving asking him to kindly write a letter of meanmandation for our . I would have liked vay much indeed to ence out to Enauge majerly, but was much to to so, as I had only, a few bound to Affected in New York, and had to return to Washington whereby after our conversation. — I am soming here in the Vignal Cope, when I am an apposed in writing technical literature on wrighter communication, used for tearning purpose, here and above at Coppet to be given an application for commission in the near future, and a letter from Mr Edvin, wheel I could enclose with any application, would be of great help to me in this convention. I haveking you for this him assistance in this matter,

Wel ligual corps few backs your fewer laws.
11.03 New March Comments

1703 New York armue Washington , S.C.

#### TELEGRAM

 Regular
 | curses

 Night Letter
 Via Postal Tel
 Company
 Date
 191

 Day Letter
 | Time 10:20 Ali

 Hary 27,1916.

Ford Motor Car Co., washington, D.C.

extra whools and chain block, please put it in condition to be driven to Orango in regular way with tractor wheels removed. By man will go down and got it. Answor.

Thos. A. Edison.

Postal Tol. Co.

B Ford Motor Car Co.

Washington, D.C.

Edison X

Thos. A. Edison.

Cuble Address "Edison, New York"

Trom/theLaloratory Thomas A. Edison/, Orange/NJhv7 17,1918.

DELLA COPY

Hon. Josephus Daniels, The Secretary of the havy,

My dear Mr. Deniols:

For the last ten days I have been hunting for property near new York City, suitable for a Laboratory.

I have found three places which are very favorably situated with very doop water near shore. any one of them, even if not used for Laboratory, would make a cheep annex to the Brooklyn Havy Yard, boing only an hour from the Yard by water. They are on the Sound .

I find that the further you go away from the suburbs of New York City, the more costly is the property as rich mon are buying it up for estates and they do not want to be close to the City.

Any time you are ready, I will take you in an automobile, or we can go on a lavy beat, and you can inspect them. I think now is the best time to got proporty choap as banks are not loaning money for spoculativo building, and property is not so much dosired.

Yours sincerely.

(signed) Thos. A. Edison.

## [ATTACHMENT/ENCLOSURE]

acend Three places which are favorable one of them, Even it not case for eap along to Paracklyn licon when are on the Sound, x to a nyour city to more coally so the presportey as

## [ATTACHMENT/ENCLOSURE]

for Estales and they do not wont to be close to the City.

Any time you are decaded will all the can carried and confined to the can be can make of them.

Them X I think need is Gent Time. to get property cheef as lapks one not bound no money for executative bealding to property is not some can be sured.

H. W. TITMAN, PRESIDEN

H. G. HOOVER, SECRETARY

E. B. BRUMM, TREAS, & GEN. MGS Branch Office: NAHANOY CITY, PA.

Main Office: PITTSTON, PA.

# BLACK DIAMOND POWDER CO. MANUFACTURERS OF HIGH GRADE EXPLOSIVES

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Mills at HAUCKS and SUSCON, PA.
Ship all goods for Haucks, Pa. to Block Diamond
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An <u>Independent</u> Company in <u>no</u> way connected with a trust

BOTH PHONES

For prompt attention address reply to

Pittston, Pa., May 27/18.

Mr. W.H. Moadowcroft,

Laboratory of Thos. A. Edison, Orange, N.J.

Dear Stri-

Replying to yours of May 24th, would eap, we manifecture the common charcosl, sulphur and nitrate of Soda black powder, and would be pleased to make the experiment you sortion of it any advantage to the government. But we doubt if our enuipment would be as estimated by as some of the other mills. We are equipped only for making the hand grained powder, which proves very satisfactory for some work, but for other work is not as satisfactory as the corning mill and pressed powder.

Our process is to pulverize the charcoal and sulphur and then to mix and incorporate the sulphur, charcoal and soda under 7 ton chacer wheels. We then prein it through sieves and dry it at a temperature of about 200 degree Fahrenheit. It is then run into glaya barrella and polished, either with or without graphite. Eliminating the prescing process does not give suite as hard a grain as when a hydraulic press is used.

If our process is satisfactory, we will be ploased

to hear from you.

Respectfully,

BLACK DIAMOND POWDER COMPANY,

Phone Plant.
Patolin R12 (Pace)

Perrub Phon
E, B, Bmmm.
Patolin 1049 J (Beck)

170 S. (Gmara Hate)

Phone acidens
180 Utilhamest

Tord Meter Company

PACTORY AND GENERAL OFFICES

HENRY FORD, President F.L.KLINGENSHITH, WISTON & Dress EDSEL B FORD, Secretary.

Ford 3

Thos A Edison Inc Orange Naled 100

May 28 1918

Dear Mr Edison:

n J

ALL SEATEMENTS OR AGRECMENTS CONTINUED IN THIS LETTER ARE CONTINUED TO STRIKES, ACCIDENTS FIRES, OR ANY OTHER CAUSES SEVEND OF CONTROL AND ALL SEATEMENTS OR AGRECMENTS. CLERICAL EMBORS SUBJECT TO CORRECTION CONTRACTS ARE STRIKET ON APPROVAL BY THE SHOWING OF A DUTY AUTHORISED OF EXECUTIVE OFFICER OF THIS COMPANY, CLERICAL EMBORS SUBJECT TO CORRECTION

We are in receipt of your wirs of May 27th which reads as follows:

"If special machine is all ready with extra wheels and chain block please put it in condition to be driven to Orange in regular way with tractor wheels resoved My man will go down and get it Answer."

In this commostion, would state that your man arrived here yesterday to drive experimental machine over the reads to your Wost Orange Laboratory, but an eorry to report that the machine on which the experiment was made was sold by us and the wheels and drume put in storage here.

During the winter time we equipped the machine with opcodal bedy and the apprimental wheele and tock eams over into Virginia for a test. We drove into a very muddy lame, which esperated two plewed fields and after going in about 100 yards, the mud get were and the machine stalled. The mud filled in the epace between the cleart or roar drumes and gave us almost a contract of the contract of the end of the district of the contract of the contract of the width of the drume pushed up the mud in such a manner as to prevent us

In our spinion, your idea should be rigged up to one of our ton trucks pather than our stendard model. "" on, as the low pear ratio centained in the ten truck will give you the desired power. We also beliave that the cleate on the drume should be about an inch wider. It would also be our recommendation that the drume on the front whoels be reduced to about one-half their present width, which would enable them to



CONTINUING OUR LETTER OF 5-28-18

SHEET No. 2

cut through the must to some extent rether thum hold you book, which they do in third present themp. We had threaded to present with your experimental work as outlined before you went easy, but Mr. Ford turned over our Building to the Ooverment and we were concequently forced to locate in small temporary quarters, where we do not have the facilities or the help to carry on these superliments.

Your Chauffeur advised that he talked with you over telephone and explained the situation to you and that you requested that the experimental wheels and frame be shipped to you by Express to your Laboratory at West Grange. Please be advised that this equipment is going forward today and would suggest that as you are located near our long Inland City Assembly Plant, that you get in touch with shem and feel sure that they will be glad to co-operate with you in this matter

Regretting that we were unable to proceed with the experiment at this Branch, we are,

FORD MOTOR COMPANY

## [ATTACHMENT/ENCLOSURE]

	Sord	,		Lotor Co ashington,			N		869
	SOLD TO	Edison West Or N. J.	Labatories ange		ORDER DATE	5/28/18		101	
-	OUANTITY	PART	H GUSTOMER	е оновн <b>Ver</b>	al Shep.	SHIPPED VIA	PRIG	.	AMOUNT
	2	2814C 2800	Experimental Rear wheels Front wheel			1	XO .	CHAP	RGE
TO CURTOMER			towns byets re-order on	ordered are teri	ATANT  Agently out of portally out of portally out of the portal o	stoek. Do inc is replanishe	of and		

May 29th, 1918

fill

ZIG-ZAG TARGET at Quarry, West Orange, N.J.

Present: Wolfe, Knierim and Hanford.

Fire at 200 feet. Vickers Machine Gun.

Experiment 1. At 200 feet, straight on, penetrated seven plates. Bullet seemed to split at 2d plate; two holes through the 3d plate; 2 holes in 4th plate.

Experiment 2. At angle 30 degrees to left, struck below No. 1 - penetrated five plates; 6th plate stopped ball. seventh and eight plate untouched. 2 holes in third and fourth plate.

Submitted by

Charles B. Hanford.

MR.MEADOWCROFT.

Lieut. Clark of the Havy Yard called up and

They have a new system for Fire Control, manufactured in the Brooklyn Havy Yard. Like to have Mr. Edison come over, any day, and see it in operation.

The Lieut. would like to get a call from you letting him know just what Mr. Edison says about coming over.

liay 29,1918.

Telegrain

May 31/18

Black Diamond Powder Co Pittston, Pa.

Min Edison leaves early Tomonow Salurday moroning by automobile to lace you about powder - Probably arrive early afternoon -

Sent W. U. 5/31/18 W. H. Mcadowaroft

2.32 hi

## THE SECRETARY OF THE NAVY. WASHINGTON. May 31, 1918.

\_\_, \_\_,

My dear Mr. Edison:

Thank you very much for your letter of May 27th. The first time I go to How York I will write you in advance so that we can take the matter up. I hope to be able to do so very soon.

Sincerely yours,

Joanembaine

Mr. Thomas A. Edison, Orange, New Jersey.

Naval Consulting Board and Related Wartime Research Papers Correspondence June 1918

June 3,1918.

Harloy, Davidson Hotor Co., 3800 Chestnut Street, Hilwaukoc, Wis.

Gontlomon:

Possibly you may be aware of the fact that I have been engaged on special experiments for our Government for the last year and a half. In one of these experiments upon which I am now working, I would like to use one of the 16 H. P. perce plants with most or you complete, such as you families with our motor cycles.

Would you be willing to furnish to me one of these power plants separately for use in this special Government work? It would be a great accommodation to the Government and to me.

If your answer is in the affirmative, will you kindly let me know the price and how soon you can make delivery the sooner the better, and I will have the regular Purchase Order issued by my Purchasing Depurtment.

Yours vory truly,

A /5235.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PACEIOCHE
WILLIAM L. SAUNDERS.
CHAIRMAN.
DENJAMIN D. THAYER.
THOMAS ROBINS.
THOMAS ROBINS.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

June 3, 1918.

To the Members of the Laboratory Committee:

The Chairman requests that the members of the Laboratory Committee meet at 9 A. M. on Saturday, June 8, at the Carnegie Institution to discuss the enclosed report of Messrs. Brunton and Condict.

The recort is sent you so that you may become familiar with its recommendations in advance of the meeting. It represents in a measure a concensus of views obtained from interviews with various members of the Board and visits to various Government and crivate laboratories, as mentioned in the report.

Very truly yours,

THOMAS ROBINS,

Secretary.

Per S

## NAVAL CONSULTING BOARD

THOMAS A. EDISON.
WILLIAM L. SAUNDERS.
BENJAMIN B. THAYER.
THOMAS ROBINS:

OF THE UNITED STATES

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

JUN 3 1918

To the Members of the Naval Consulting Board:

Please be advised that the next meeting of the Naval Consulting Board will be held on JUN 81918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clook and the formal meeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary, NAVAL CONSULTING BOARD,

Per '>

June 4,1918.

. S. Goological survey,

bachington, D. C.

Hr. Elison wishes to obtain the Havre de Grace motion of your map which will show abordeen, where the Government has its trial range.

Indox App. or Edy, so I cannot give you the number of the section referred do. bill you kindly mail to go, at your conflict convolence, this section, and I will hand it to it. Addition.

It might be useful if we had here at the Laboratory one of your Index Maps.

Yours very truly, .

Assistant to Mr. Edison.

6/5243

GOPY:

our.

June 6,1913.

From: Thomas A. Edison, Orange, H.J.

To: Commandant, Third Naval District.

Subject: Extension of release from active duty granted to George B. Hanford, Jr., Oller, Naval Coast Defense Reserve,

Class 4, USERF,48 Spruce Street Bloomfield . H. J.

Dear Sir:

1. This man's present release from active duty expires July 5,1918.

- 2. This man has become one of an active party of three men, who are veluable to me in the development of an important experiment which is now at a critical stage. Our tests in Plorida were very successful and opened a linge field for future efforts in Orange, D. J. We will then locate upon a new proving ground here in the Borth.
- 2. In order to eliminate the necessity of securing extensions of hie release, I will now sak for an indefinite release from active duty for this man Hanford, such release to remain in force until this important Government work is completed, which may tall from three to five mouths and persolly choser.
  From three to five mouths and persolly choser.
  In the tork, at which time he will report for sesigment in the favy.
- 4. It is important to confine the knowledge of the workings of this experiment to the smellest possible number of people. Therefore, I am asking for the continued help of Hanford until the experiments are completed, so that I will not have to take in a new men.

Yours respectfully.

(signed) Thos. A. Edison.

June 7. 1918

M. W. H. Meadowcroft Orange, N.J.

Sear Sir I just received M3 Edwar's letter of vecourmandation, and with to thank him for the kind
assistance he is giving me, which will undoubtedly
be of quat rake to me in the near future.
Wanting you also for helping me in this matter,
I am, with best regards,
your truly your.
Herri Came:

1703 New York are Washington . S.C. NAVAL CONSULTING BOARD

OMAS A. EDISON.
LLIAM L. SAUNDERS.
CHAIRMAN.
NJAMIN B. THAYER.
VICE GUIRNAN

OF THE UNITED STATES

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

June 6 ,1918.

TO THE MEMBERS OF THE NAVAL CONSULTING BOARD, Gentlemen:-

At the meeting of the Laboratory Committee of the Maval Consulting Board held today, it was decided that the enclosed list of suggestions for development and investigation was not sufficiently broad and comprehensive to include the different classes of work which would probably be brought to the Laboratory and it was suggested that the committee write to each member of the Board asking them to suggest additions and amendments to the enclosed list.

Please send us your views at the earliest possible date to this address, and oblige,

Very truly yours,

NAVAL CONSULTING BOARD,

Member and Secretary.

Enc.

#### [ATTACHMENT/ENCLOSURE]

#### Suggestions for Preliminary Development & Investigation.

The following list of desirable lines of development have been suggested by the Board members and Eaval Officers and it would be well to select out of this list much lines as could be most easily started, and for which there is the greatest demand.

experiments to determine the best method of reducing the skin friction resistance for ships.

The firing of minos magnetically for short range work.

the development of electric wolding to replace riveting in ship building.

The development of motel reflectors gold-plated to replace glass along lines now being experimented with abroad.

The determination of the most offective materials to be used for securing the greatest illumination in searchlight carbons.

an improvement in lining for guns.

The production of foluol from sources not now available.

The testing of internal combustion engines and accessories such as spark plugs.

To determine the rate of flow of oil of high viscosity through pipes of various sixos- a most important matter for the Navy.

 $\boldsymbol{\Lambda}$  radio direction finder for aircraft.

Anti-static devices for radio receiving.

Sound amplifiers.

Simultaneous sending and receiving on shipboard.

#### [ATTACHMENT/ENCLOSURE]

Wireless telephones Valve transmitters Detenating devices for depth bombs Radiometric work Gauges Magnetos Light alloys Fire retarding paints Aeronautic cameras Wal lboards Anti-freezing solutions Heat treatment of aluminum-magnesium copper alloys Ignition devices Electroplating of military supplies Photometry of self-luminous materials Searchlight testing Aluminum solders Acid resisting alloys Conservation of tin in bearing motals Embrittling effect of metal coating processes Steam pressure regulators Heat treatment of forgings Look nuts Anti-friction bearing metals Steam generation using atomized fuel Aluminum alloys Fuel briquettes Centrifugal pumps Non-ferrous alloys Turbo air pumps

#### COPY

Report to

THE SECRETARY OF THE NAVY

on the subject of

the proposed

NAVAL LABORATORY

---000---

This Report was made by the Sub-Committee and was approved by the

NAVAL CONSULTING BOARD June 8, 1918. From: The Naval Consulting Board, To: The Secretary of the Navy.

This report was compiled by experts of the Board who visited and interviewed various members, officers of the Mavy and others and who personally inspected the following:

Bureau of Mines Laboratory; Bureau of Standards Laboratory and Shope; The Remington Arms Company Plant; The Engineering Experiment Station, Annapolis; The Electrical Testing Laboratories, Hew York City; The General Electric Company Shops and Laboratories, Schenectady, N.Y.; The Shops at the Torpedo Station, Newport; The Shops at the Submarine Base, New London; The Shops at Gould and Eberhardt, Newark, N.J.; The Shops at The General Vehicle Company, Long Island City.

While this investigation is not yet completed, we respectfully make the following recommendations at this time with the object of giving a basis for the consideration of the matter by the Committee:

It should be berne in mind that these recommendations are intended to cover simply an initial installation which will serve as a nucleus around which to center future developments and it is anticipated that such developments will have to be extensive and adequate to meet problems which can not now be foreseen.

#### Transportation of Freight and Passengers.

There now exist facilities for transportation by

\* both rail and water to the U. S. Haval Hagazine on the property
adjoining the proposed location of the Laboratory at Bollevue,
washington. The Baltimore & Ohio Railroad have a truck along
the eastern boundary of the property, and this truck should be
extended down to the waterfront for the transportation of
materials including coal for the power plant.

As the river is shallow along the front of the property, it will be necessary to extend the wharf out a distance of at least 900 feet in order to secure sufficient dopth of water to permit the docking of small naval, vessels, such as torpedo boats. Pacilities for both rail and river transportation should be provided at once, so that the materials for construction of the plant can be easily delivered at the property.

with reference to passenger transportation, it would be desirable if the street railway line, which now crosses the B & O track a short distance north of the property, should extend its line down to the laboratory by installing a trolley wire over the railroad track.

#### Buildings

The buildings to be provided should cover accommodations for office, drafting room, machine shop, chemical and physical laboratorios, rooms in which inventors and scientists can develop their ideas without undue publicity, pattern and woodworking shop, forge shop; and possibly furnaces for both brass and steel castings. The power house should be located mear the waterfront in order that fuel may be delivered either by rail or water.

As there is ample space on the property for future expansion, one-story fire-proof buildings could be created and used to best advantage.

For this purpose the sow-tooth type of building is preforable owing to the efficient and saturatory lighting, and a print of a preliminary sketch is attached herote those in a building of this type, 160 foet wide by 400 feet long with 16 feet clearance between floor and under side of girders, in four bays, each 30 feet in width and 25 feet clearance in one bay 40 feet in width; all with columns spaced 20 feet centers through the length of the building. The drainage from the rood would be carried down the columns on the inside of the building, and would be of ample capacity to take off any possible accommission of water.

This building should be located near the river which runs from north to south, the length running back from the bluff which at this point is approximately 18 feet above mean high water. The saw-tooth roof construction should run from cast to west, so that the glass will face the north, thus giving the most satisfactory light for all purposes inside the building. By making the four sides of the building largely of glass, there should be no dark corners.

The most satisfactory material for roofing is Gypsum
Tile. This material being fire-proof and non-conducting and
by a suitable covering on the outside, waterproof.

The floor would be of concrete slabs 4" in thickness with a 2" covering of cinder concrete temped between stips of wood th which would be nailed 2" spruce or hemlock planking, and

that portion selected for office and drafting room covered by 7/8" mayle flooring. Partitions which dould be easily erected and taken down at small expense should be made of Pyrobar slabs.

The ourtdn walls would be built of brick unless it should be determined that concrete could be secured at a lower figure, which can only be determined at the time that actual bids are secured.

The approximate cost of the above building ready for occupancy including the necessary radiators for heating would be \$190,000, and there are companies who will enter into a contract to complete the structure inside of 60 days from signing the agreement.

#### Power House

It would seem advisable to install for immediate use while the permanent power plant is being erected, a temporary power equipment, and the Eureau of Steam Engineering at Washington is prepared to furnish information which has been sent to them in reference to second-hand power equipment which could be borrowed or secured at once at a low figure.

An ample supply of electric current for power, lighting, and experimental purposes must be available, and at this stage of the enterprise it is impossible to determine the maximum requirements so that provision should be made for future expansion.

A brick power house, as per sketch attached, 60 ft. by 100 ft., can be erected at a cost of approximately \$35,000. The approximate cost of the Power Flant would be about \$100,000.

#### Pattern Shop, Store House, Forge Shop.

#### Equipment

In securing quotations of the equipment for power plant, shop, laboratory, offices, etc., no attempt was made to obtain lowest prices, the endeavor being rather to make liberal allowance for all contingencies, and therefore the figures given are higher than would be the case in the event of competitive prices being secured.

An endeavor has been made to no proportion the standard equipment that it will be complete and enable the building and testing of the different classes of apparatus which in the opinion of the Board, should be developed at the Laboratory, it only being necessary to add the special equipment required by each case as it is taken up.

#### Machine Shop Equipment.

This equipment should comprise tools of the very beet make, complete in every particular, and covering the entire range of ordinary shop practice. All tools as far as practicals should have individual motor drive, so as to largely obvicte the use of line shafting and belte. The following liet of machine tools would probably cover the equipment for the initial inetallation:

тА	cover the equipment for the initial inetallation:	
10	Pratt & Whitney 7" x 32" bench lathes with benchee, collet racks and counter- shaft rode and one complete set of attachments	
2	Pratt & Whitney 10" x 5' tool room lathe with compound elevating-reet and regular and extra tool equipment 2,760.00	
1	11" x 4 ft. Blount speed lathe, motor driven with full equipment	
8	14" x 8 ft. Lodge & Shipley selective head quick changing gear ecrew outting lathee, motor driven with extras 14,286.00	
1	20" x 16 ft. Lodge & Shipley celective head lathe with regular equipment, in cluding taper attachment, chip pan, motor drivon	
4	No2-A Brown & Sharpe Universal millers, motor driven 9,740.00	
2	Mo. 2-B Brown & Sharpe plain miller with pump, motor driven	
2	No. 1 Brown & Sharpe vertical miller with motor and countershaft	
1	No. 00 Pratt & Whitney bench milling machine with cutters	
1	3-1/2 ft. Cinoinnati-Biokford plain radial drilling machine, with swivelling table, complete with regular equipment, with wariable oped motor 1,975.00	

2 - 21" Cinoinnati-Biokford sliding head arills, complete with tapping attach- ments and geared motor drive, with motor
2 - 24" Cincinnati-Bickford high speed short driven sliding head drills, with tapping attachment and compound table, variable speed drive, with motor 2,400.00
3 - No. 1-B Avey tool room drilling machines with all bearings and two tables and oup and crotch centers, belt driven . 690.00
3 - Ho. 2-1/2 Avey con-spindle high speed ball bearing drilling machines, belt driven, 12" overhand
2 - Gould & Eberhard 16° high daty orank shaper with vise and regular equipment to have smivelling table with tilting top and arranged for variable speed motor drive, with motor 3,100.00
2 - 24" Gould & Eberhard, high duty orank shaper with regular equipment, arranged for variable speed motor drive, with motor
1 - 24" x 24" x 6' Cincinnati planer with one head, complete with motor 5,200.00
3 - 18" Cincinnati Acme Universal turret lathes with geared friction head stook, chasing attachment, belt driven 2,820.00
1 - Cochran-Bly bench filing machine, belt driven 40,00
1 - 1" x 7" Ginoinnati Aome sorew machine, plain head, belt driven 570.00
1 - No. 1 Universal grinding machine with motor, Brown & Sharpe
1 - Brown & Sharpe No. 2 surface grinder with motor and magnetic clutch and 42" index centers and adjustable swivel vise 845,00
1 - No. 3 Universal cutter grinder and reamer and form cutter grinding attachment with 690.00

	-	pump and truing device, complete, belt driven	144.00
L	-	No. 3 Blount double emery wheel grinder with guards, wheels, etc. complete, belt driven	60.00
1	-	13 ft. x 6 ft. Blount speed lathe with hand rest and self-oiling head and slide rest, belt driven	185.50
1.	-	Type B United States portable electric drill, capacity up to 1-1/4". complete with motor	54.00
1	-	Type D ditto, capacity up to 1/2"	82.00
2	-	" H U.S. portable electric grinders with wheels, complete with motors	108.00
1	-	Type KK U.S. electric bench grinder, complete with wheels and motor	108.00
1	-	Bullard 42" Vertical turret lathe, arranged for motor drive with motor for direct current; includes four-jaw chuck in table	8,000.00
1	-	set of tools for above	200.00
1	-	No. 3 Cincinnati-Aome Universal flat tur- ret lathe, geared head type, with com- plote equipment for bar and ohuck work; to have taper attachment and motor for D.C.	4,500.00
1	-	2-1/4" x 26" Cincinnati-Aome flat turret lathe with bar and chuck equipment and motor for D.O.	2,400.00
2	-	#3-1/2 Greenerd arbor presses with iron floor stands, @ \$77.50 each	155.00
1		#5 Greenerd arbor presses	175.00
1	-	Wilmarth & Morman Twist Drill Grinder with oapacity to grind from 3/32" to 1-141" drills, belt driven	166.50

1 - Wilmarth & Morman Twist Drill, grindor with onpaolity to grind from 1/8" to 2-1/4" drills, belt driven	\$ 200.00
1 - #4 Stoever pipe machine, complete with dies for cutting and threading up to 4" diameter pipe, to be motor driven and complete with motor for D.C	1,100.00
1 - Gear outting attachment 12" for #2 Cincinnati Miller	170.00
1 - Ryerson Quadruple Combination Punching and Shearing Machine, motor driven	1,494.00
1 - Lennox Serpentine shear #3	663.00
Total	\$88,811.40
The cost of machine shop furniture and	ı
small tool equipment will be	25,000.00

# Forge Shop.

4 - No. 96-R Buffalo stationery down-draft forges 2 - Blowers 2 - Exhausters 2 - Motors 1 - Fractal wright strap harmor, 150 lbs. The control of the control	\$ 680.00 150.00 250.00 500.00 1,209.00 600.00 410.00 \$ 3,699.00
Small Tools, etc.	
	168.00
4 - Anvils - 200 lbs. @ \$42.00 each	100.00
4 - Sets fire tongs and shovels \$3.00 pr.	12.00
	28.00
4 - " blacksmith tongs	5.00
4 - Bar dies	23.60
4 - Sets sledges @ \$5.90 per set	
4 - Hand hammers 3 \$1.25 per	5.00
4 - Ball Pein hammers @ \$1.25 each	12.00
8 - Cold chisels @ \$1.50 each ####	6.00
4 - Hot " O \$1.50 cach	7.00
4 - 3" flatter @ \$1.75 each	100.00
80 - Top and bottom sweges C \$1.25	50.00
40 - Fullers C \$1.25 each	10.00
100 - Lbs. Welding compound	24.00
24 - Round blacksmith punches @ \$1.00 each.	12.00
12 - Squaro "	2.50 470.10
1 - Tire measure	\$4.169.10
	6.4. TOB . TO

# Pattern Shop.

	- 1	42" American band saw, with iron tilting table, furnished with 1/2" bleds 22'8" long, brazing clamp and tongs, wirs mesh guards, etc.	ş	462.00
۰.		#10 American Standard 36" band saw with iron tilting top, wirs mesh guards, etc		306.00
١.		American self-contained jig saw		200.00
		American direct draft medium swing saw, with adjustable hangers, 16" saw and shield. Swing table, automatic stop guags, 9' long		218.88
1 .	-	#20 American Universel sew banch with two steel arbors connected to a revolving yoks, fitted with circular rip saw and one cross out saw, with safety saw guard fitted to above		548.00
1	-	#10 American Variety saw bench, with 16" diameter saw, with automatic safety guard fitted		300.00
1	-	American #444 24" x 7" Single Surfacer, with three knife safety cyclinder		900.00
1	-	American Bench Jointer, fitted on iron pa- destal, with round safety head, and safety guard fitted		198.00
1	-	American #2 1/2 two-spindler shaper with ball bearings and adj. countershaft and safety guards for such spindle		521.00
1	_	American #2 Vertical Borer		200.00
1	-	American #2 1/2 Horiz. borer with plain bit socket		270.00
1	-	American #13 Pattern maker's lathe, 24" swing, 8' bed, with carriags and compound rest. (If longer bed is required, same can be furnished at axtra cost of \$38, for each		780.00

	Extra ecossacias for above —  Rear end face plate and stand with angle rest	133,20
1 -	American #2 Universal Sand Papering machine, with vibrating spindle and 27" diam. Sand disc	220.00
1 -	American Grindstone frame, with 36" diam. x 4" wide grindstone	75.60
1 -	Perkins #14 Universal Draw out trimmor, inc. stand, to trim stock 8" thick by 12" wide	95.00
1 -	- do. #8 to take in stock 4-3/8" x 7-1/2"	35.00
	Total	
	Motors for individual drive	2,726,70 \$9,864.28 1,178.10 \$11,042.48

1 - American 12" speed lathe, 72" bed ....... \$153.00

#### Brass and Steel Furnaces.

There is a great demand by different departments of the Government for small steel cartings and it has been suggested that the equipment at Bellevue should cover an electric steel furnace of at least one-ton capacity. A brass furnace is also recommended.

#### Compressed Air.

It would appear essential that a small compressed air plant should be installed -

1 - XB2 Imperial Compressor, 12" and 7½" x 12" 327 ou. ft. min. 57 H.P. - 100 lbs. pressure, complete with Westinghouse motor receiver 42" x 8". \$2,950.00

#### Chemical and Physical Equipment.

#### Cranes.

fravelling oranes of one and two ton capacity operated from the floor may be advantageously used in some of the small bays, and in the large bay a travelling orane of ten-ton capacity. The railroad track would be extended into the building under this orane to permit unloading direct from the cars.

It may be advisable to install jib cranes for some of the larger tools in order that work may be easily handled. The approximate cost of installing travelling oranes suggested above is as follows:

-		10-ton traveling orane\$10,000.
	-	TO-FOU PLEASETING OLUMN
3	-	2-ton floor operated cranes \$2.150. 5.450.
3	_	1-ton " " 2,000. 6,000
800		Ft. 45-1b. T-rail 1,508.50
1440	_	Pt. 30-7h. " 1,799.40
		fittings, installation, etc 1,000.00
		Total \$26,757.90

# Office Equipment.

		Desks	eoh	\$45.00	270.00	
9	-	Desk Chairs	1	15.00	90.00	
			er .	8.00	96.00	
12	-	Side Chairs		8.00	20.00	
6	-	Combination Card and	11		040.00	
				40.00	240.00	
4		Typewriters	11	75.00	200.00	
ā	_	Typewriter chairs	11	12.00	48.00	
7		desks	11	35.00	140.00	
*	-	Plain Oak Tables	17	15.00	90.00	
		Side ohairs	11	5.00	30.00	
			17	2.00	24.00	
12	•	Desk Letter trays	17	3.00	36.00	
12	-	waste raper baskets			36.00	
6	•	HST TROKE		6.00	20.00	
6	-	Metal filing cases for			*** **	
			и.	41.00	246.00	
7		Card file and base (10,00	0)			
-		oards			50.00	
		Fire-proof safe oabinets.	u		600.00	
	•	Large table for Committee	Ro	om	100.00	
- +	-	Terie repre in a	11	8.12.00	288.00	
24	•			18.00	432.00	
24	-	Clothes Closets (Metal)			75.00	
1	-	Book case for Library	•••	• • • • • •	20.00	
1		Catalogue Cabinet			20.00	
		-				
		Incidentals including -				
		Ink wells, desk pads, e	100	trio fans		
		ouspidors, umbrella sta	nds	. eto.	200.00	
		ouspicoss, american	To	tal	\$3,336	j,

# Draughting Room Equipment.

LO	_	#2590-F American Drawing Tables 42 x 84
-		with parallel attachment #2549 X & M
3	-	#2595 Chest of Drawers
LO	-	Stools with revolving wooden seats
1		Doz. #1855-10" 30 x 60 degree Xylonite Trian-
		gles
1	-	Doz. 6" ditto
1	-	Doz. 8" ditto
1	-	Dez. 4" ditto
1	-	Doz. #1621-P Paragon Triangular Scales
ı	-	Doz. #1631-P ditto
1	-	Doz. #1400-P ditto
2	-	Doz. Small bottles Higgins black ink
1	-	Doz. do. carmine
1	-	Doz. do. assorted
Б	-	Doz. #3655-G Green erssers
2	-	Dog. #3418 Ink
1	-	Roll S-50 Duplex paper, 36" wide, 40 lbs.
12	-	Doz. Eldorado penoils
1	-	Roll #156 Imperial Tracing cloth 36" wide,
		24 yds. per roll \$996.01
1	-	Blue streak blue printing machine 1285.00
1	-	Electric Drying machine 800.00
1	-	Zino Bath Tray 25.00 Total \$3,106.01
		TOTAL go, 100.01

#### Eleotrio Light & Power.

Service to extend from the Power House to the northwest corner of the Laboratory Building underground, of capacity sufficient for the ultimate total D.C. load of the building.

In the northwest corner of the building install a general service and distribution switchboard, preferably of the cabinet type, for both light and power.

## Lighting Distribution Schome.

At each of six points uniformly distributed throughout the building install a lighting panel, proferably of the deadfront safety type and to seach of these panels was a fine service board. From these panels are a fine service board. From these panels of the service to the service board. From these panels of the service are a service to a climit; the control being entirely from the six lighting panels before mentioned.

The lighting fixtures should consist of rigid conduit stems with shellow bed notletotors. In some cases 300 water will be more than control and at such points Mogul adapters can be stems should be of such longth as to bring the tip of the lamp approximately level with the trues.

Provision should also be made for a line of 40 wattreomptables extending the entire laught of the north side of the standard the entire laught of the continuous standard in the continuous standard to the continuous standard to the intervals of about 10 ft. These can be used after the building is cooughed for such types of portable fixtures as may be descred necessary in each location.

#### Power Distribution Scheme.

Locate mix power panels, preferably on the same columns with the lighting panels, back to back. Each power panel to have six (6) 30 amp. and six (6) 60 amp. knife switches, and be fed from the main service board by two (2) 4/0 cables in conduit.

the motors cannot be determined until the sites and locations of the motors cannot be determined until the sites and locations of the motors are determined but, in genoral, it will be provided to group a number of small motors on one circuit, leaving the larger switches for heavier motors which may be required:

It is estimated that the cost of this installation, including a reasonable allowance for the wiring between the power panels and the motors, will be approximately ..........\$18,000.00

Buildings

# RECAPITULATION

-	
Shop	140,000.00
Pattern Shop	12,400.00
Pattern Storage	15,000.00
Forge Shop	6,600.00
Power House	35,000.00
Power Plant	100,000.00
Machine Tool Equipment	88,811.00
	25,000.00
Small " " Forge Shop	4,169.00
Pattern Shop	11,042.00
Pattern Shop	26.758.00
Travelling Cranes	26,756.00
Compressed Air Equipment	2,950.00
Piping, Valves, etc	2,000.00
Chemical & Physical Equipment	
Electric Light & Power Circuits with fixtures	
Sanitary fixtures	2,100.00
Lookers, expanded metal 100 at \$1.15	1,115.00
Water supply	
Drafting Room Equipment	
Office Equipment	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Freight and Installation	. 15,000.00 .8595,386.00

It appears that there are several large shops in the country which have been equipped by the Government with machine toole and accessories for the purpose of manufacturing for the Army and Mary, but which up to the precent time have not performed any work. As it will be difficult to course immediate deliverion of a great many of the tools which will be needed, it might be possible to appropriate come of the equipment owned by the Government for the use of the Research Laboratory.

A large number of motors and eace of the tool oquipment which were used by the Government in the large irrigation projects in the West were cold to varioue concerne and information to being secured as to the possibilities of getting hold of some of these machines in case of necestity.

In quoting on the equipment covered herein a large amount of detail has been furnished which is not embodied in this report, but which is on hand in case a more exhauctive presentation of any of the various items is desired.

A list of suggestions for development and investigation in this laboratory is being propared in consultation with the various members of the Board, which will be submitted in the near fature.

> Respectfully eubmitted, (signed) W. L. Saunders, Chairman.

June 10.1918.

ir. Bruce R. Silvor, c/o Hr. Richmond Lovering, Special Agent, Department of Justice, 120 Broadway, Hew York, H.Y.

Donr Mr. Silver:

I have been expecting, from day to day, to hear from you as to how you are getting along and that prospects there are of your return to the work.

This is more than two months ago, and there has been no change in those financial arrangements, nor does it appear how much longer you will be engaged for the Department of Justice.

The difficulty or far as we are conceined, is that under proceed arrangements over compelled to change your time to the shopped of the control of the contro

can you give us any definite information as to whom you will be through your work for the Department of Austico? If your work to the Department of Austico? If your work to the the tendent of the Department of the Edison cupit to know, and our accounting Department of the Country to the control of the Country of the Coun

Trusting that I may be favored with an early realy, and with kind regards, I remain,

Yours cincoroly,

Assistant to Mr. Edison.

./5260.

ASSETS ALL COMMUNICATIONS TO UNITED STATES SHIPPING BOARD NEW LONDON, CONN. PLEASE NEFER TO FILE

#### SHIP PROTECTION COMMITTEE

#### UNITED STATES SHIPPING BOARD

NEW LONDON, CONN.

June 11th, 1918.

Mr. Thomae A. Edieon, Edison Laboratory, Orange, New Jersey.

Dear Mr. Edison:

- The week following my visit to you, and our talk over the question of listening for forpedees, I brought the metter up before the Ship Frotection Committee of the United States Shipping Board, and got that committee to recommend that ships traversing the submarine zone should have internal bow tanks fitted with microphones placed in them with extension wires to listening poot
- I told the committee of the work which you were doing, and that you expected that you would be able to get a more advantageous planeing of the microphone, but that you folt that it would be worth while to go sheaf with the planes withol I recommended, and that substitute or change could be made later who your work was completed.
- I also mentioned to the committee the work which you were doing with the sea anohor and told them in general terms the results which you had accomplished, and stated that I expected to keep in touch with you regarding future developments in this line.
- I would very much appreciate it if you would let me know the progress of this work, and would very much like to witness come of the tests with the sea anchor if you are to make any in the near future. If this can be arranged will you places aftron me at my office at  $\frac{1}{2}$ 55 Liborty Street, Hew York City, when and where such tests will be made.
- I received last week a copy of a confidential report from the office of Maval Intelligence, based on information obtained from abroad. This report exteed that in the month of April, this year, a cerice of tests were conducted in listening to torpedoce fired in the roininity of a patrol beat equipped with what is known as the Walser apparatue, which I understand is an accountic device, and the receive reported were that the torpedo could be detected as 2000 as fired at a distance of about 1200 meters, and it was recommended that additional tests be made to follow up the matter.

ABIĀLES AČL COĞĞÜNELTÜLME TO UNITED STATES SHIPPING BOARD PLEASE REPER TO FILE

SHIP PROTECTION COMMITTEE

#### UNITED STATES SHIPPING BOARD

NEW LONDON, CONN.

Mr. T. A. E. Sheet # 2, June 11, 1918.

The report from the French source also suggested the possibility of the use of a sea anchor attached to the bow of the vessel by means of a howser.

It struck me as rather interesting that they had actually tumbled on to the things with which you have been working for such a long time.

Thanking you in advance for the courtesy of your reply, I am,

Yours sincerely,

Member
NAVAL CONSULTING BOARD
UNITED STATES SHIPPING BOARD

AMH/RL

Day I will let him Knaco
when Listening deoice is secondy
for test on Dachem - as to
sea cenchor I have Hanchors
of nine foot wire and well
whate a demonstration on a

Cargo Coat as soon as lestening device is in quad condition. providing shipping board will let the use a chorgo boat going out for one day- then she can proceed I have kept the Englash Admirally fully informed about my devices as for back as a year

With our country at war save time, money, and affect by NOT acknowledging this letter unless you wish further information.

If the Coological Survey has served you it has simply done its duty and will take your oppositation for greated.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON

URVEY George

OFFICE OF THE DIRECTOR

17

June 11, 1918.

Mr. Wm. H. Meadowcroft, Assistant to Mr. Edison, Orangs, N. J.

Orangs, N. J.

In response to your letter of June 4:

I have taken pleasure in sending to you, under separats cover, a copy each of the Havre de Grace and Betterton, Haryland, topographic sheets which cover the vicinity of Aberdsen, Maryland.

The topographic maps are ominarily distributed through sale but I am glad to be able to furnish these with the compliments of the Director from a few placed at his disposal by retiring Members of Congress.

The index map herewith shows the progress of topographic surveying in Maryland and Doleware. Should you need any other sheets I hope you will not hesitate to request them.

Yours very truly,

Chief

Inclosurs.

(5286)

W. H. Meadowcroft, Esq., Edison Laboratory, Orange, New Jersey.

Dear Mr. Meadowcroft:

+

I happened to ep. New York yesterday afternoon and passed the "Sanhem" in the river, stopped and visited with the orond abourd, and was reminded of a really good intention to write you for some weeks past. On my arrival at the office, I found your letter, and I hasten to write you and apologise for my medicence.

The work here in connection with the Department of Justice has reached a development that none of us dreamed up, in the earlier stages of the investigation. The people is Washington have become so entinuisatio that the sotual maunfacture of the incendiary boxbs is underway for rushed shipment to Europe. In the mist of all of the outlement, I have been made responsible to the Department of Justice for all of the experimental work, and not as a sort of buffer between the Arry, Navy, and Justice pepartments. As you can imagine, I have been good to be a possible. In Justice, I have been good to be presented to the property of the prop

I labored under the delugion that satisfactory arrangements and been made with it. Bilono by the Atternsy General, for my compensation, else I should have written you long ago.

Very early in the Washington work, I appreciated the inquestion that night be done in: Editon, by putting in an extension that might be done in: Editon, by putting in an extension of the extension of th

On receipt of your letter, I presented the situation to the Department, and I hope that you have received a letter of explanation by this time.

I have asked Mr. Blobmend Levering, who has general charge of the next for the Department, to write you at length, and annex the questions you have asked me. My easy desire in the whole matter is do the right thing, and accomplish the most cervice. I should heeltate to make any more which would not meet with Mr. Zdissel's approved, for I reclize only to well, that my connection with him, made this work, which has become ef such absorbing interest, peetble.

Incidentally, my pay coupons for the past month have not been forwarded to me. Of course the disposition of that amount will next any arrangement which Mr. Edicen will make with the Department of Justice.

I hepe that you will appreciate the peculiar position in which I find myself placed, and I should welcome any suggestion which you would make to straighten out the whole affair.

With kindest regards to yourself and my friends at the laboratory, I remain,

Sincerely yours,

120 Broadway New York City June eleventh 1 9 1 8 \_\_BucePhilor\_

June 12,1918.

Pr. A. H. Hunt, c/o Ship Protection Committee, United States Shipping Board, Room 413, Plant Building, Now London, Conn.

Doar Mr. Hunt:

I have received your lettor of the lith instant and bog to say that I will let you know when the listoning dovice is ready for tost on the "Sachom".

As to see anchors, I have four anchors of nine foot area, and will make a demonstration on a cargo beat as soon as the littening device is in good condition, provided the Shipping Board will lot me use for one day a cargo beat going out. Then she can proceed.

I have kept the English Admiralty fully informed about my devices as far back as a year.

Yours very truly,

A/5286.

## Department of Instice. Bureau of Investigation.

New York City. June 12th.1918.

Mr. Thomas A. Edison.

East Orange, N. J.

Attention of Mr. William H.Meadoworoft.

Dear Sir:-

Your letter of June 10th, addressed to Mr. Silver, has been embnitted to me in order that Mr. Silver might make some definite reply to your questions, work at Jones Point has progressen of us held in regard any possible status of Dr. Scheele's verious propositions. The Department of Justice, of course, made the first request for the cervices of Mr. Silver, to sid them in determining whether Dr. Scheele's verious propositions which was replicated and we have a subject to the desired of the silver, and they consider the subject of the silver which was replicated and we have finally arrived and the point of actually producing bombs in quantity, based on the original experiments. based on the original experiments.

definitely altached to the laboratory and there is much work of importance being done by these officers in with Mr. Silver has been sort of a commenting link with the laboratory as the commentation of the laboratory. It is a posuliar fituation land on personal equation, and altary in think none of the Departments would like to disturb.

with regards to ir. Silver's compensation and accounts, it would be my euggestion that insamuch as he is working jointly for the benefit of three Departments and almost exclusively on new experimental work, that funds and almost exclusively on new experimental work, that funds applicable, through you, for each experimental work, would applicable, through you for each experimental work, would be the proposed of the other proposed of the control o

Mr. Silver send the back reports on the work, and send copies of the same reports that are made every few days to Colonel Ragadale and Commander Wilkinson and to our Department. If you see any objection to this arrangement, I will take not been send to other Eureman in Washington to make the return adjustment, but changes in accounting matter will simply so much red tage that I would be giad to avoid the undertaking.

With regard to the time that these matters will go on. I should say it was absolutely indefinite. There are non-confiners being attached and the plant, itself, is being built up around the results there produced, which have been most encouraging.

I remain.

Very sincerely yours,

For the Department of Justice.

RAYMDHO B. STEVENS, VICE CHINEARS JOHN A. DOHALD, CONSISSIONE SAIMORIDGE COLEY, CONSISSIONE CHARLES R. PAGE, CONSISSIONER LESTER SIGLES, SCORESSIONER IN SEPLY ADDRESS
"UNITED STATES SHIPPING EDARD"
REFER TO FILE No.

## United States Shipping Board Washington

June 12, 1916.

Hunley

Mr. Thomas A. Edison,

East Orange, N. J.

My dear Mr. Edison:

I was very pleased to learn from Mr. Schwab that you attended the launching at Mewark Hay, and was very sorry that I was not there to welcome you.

I hope you liked the story I told in my recent speech, a copy of which I am inclosing.

Hoping you are quite well, and assuring you that I will always consider it an honor to see you when you are in Washington, believe me,

Yours very sincerely,

Edward N. Thurley.

ENH-BH

Inclosure.

June 13.1918.

Er. Richmond Levering, Special agent, Department of Justice, 1EJ Broadur, Now York, 1.7.

Doar Sir:-

I have received your favor of the 12th instant in regard to the compensation of ir. Silver, and have shown the cume to ir. Jison.

No tithed no to say to you that the expenditures he is making to cover the cost of the experiments he is conducting are sade under the authority of the Secretary of the lawy. These are pedid out of a special appropriation over which Secretary Deniels has juriediction.

in. Makeon mays that he has no objection that over to continue the nymment of compensation the first element of the conducting these special experiments for the Departments of the Amy, Havy and Justice, provided that special authority is given by the Secretary of the Davy.

It meems to in. Idiaon that it would be propor for the Department of Justice to discuss this matter with Beercary Emissis and to obtain such permitten if he is willink to give it. Le will, theirofore, amit your action in the matter, and in the meantine in. Silven will be oblighed to wait for some arrans of compensation due in the matter of the matter

him copies of roports, and care that he will be much interested in sooing thom.

Vory eincorely yours. .

June 13,1918.

Ir. Bruce R. Silver, c/o Department of Justice, 120 Broadway, Hew York, H.Y.

Doer Mr. Silver:

I am glad to receive your letter of the 11th instant and to become acquainted with the facts as they stand at the precent time in regard to your work.

I have also received a letter from itleavering explaining the matter substantially on you have outlined it in your letter. Insemned as ir-Edison is spending mony from a special fund over which Secretary Bontoin has jurisdiction, it will be necessary to commit it. Buttle as to whether it. Edison cen continue your companisation from this fund.

telling him that it. Ecleon would profer that the Department of Justice taken would profer that the Department of Justice take this enter un direct with Secretary Dentation of a dayles (ir. Maisten as to the result. It may subject you to a little inconvenience in making you test for your money, but I am afraid the matter will have to remain in statu que until ir. Edicon is notified of the Secretary's decision.

We all join in kindost reparts to you, and I remain.

Yours sincerely.

Assistant to Mr. Edison.

A/6286.

TOTAL STATE OF THE PARTY OF THE

CLASS OF SERVICE SYMBOL.
Telepane
Day Latter Blue
Night Message N. L.
H came of these three symbols
special state when Commercial
words) this is a integrate. Other,
symbol separating after the cheek.

RECEIVED ATR. MAIN ST. & ESSEX AVE.,

SA NY R 41 GOVT

MC WASHINGTON DC 1201PM JUNE 13 1818

W H MEADOWCROFT

EDISON LABORATORY ORANGE NJ

HAVE RECEIVED CABLEGRAM THROUGH STATE DEPARTMENT AND MILLIKAN OF RESEARCH COUNCIL FROM ITALIAN GOVERNMENT REQUESTING EDISON CONFIDENTIAL INFORMATION WILL BRING IT UP TOMORROW IF AGREEABLE CAN I BRING ANYTHING ELSE PLEASE WIRE

JARVIS BUTLER

108PM

me Holy A.S.A

M. W. TITMAN, PARRIDENT

Main Office: PITTSTON, PA.

H. C. HOOVER SECRETARY

E. D. DRUMM, TREAS, & GEN. MGR.

Branch Office: MAHANOY CITY, PA.



# BLACK DIAMOND POWDER CO.

# HIGH GRADE EXPLOSIVES

Mills at HAUCKS and SUSCON, PA.

Ship all goods for Haucks, Pa. to Black Diamond Powder Co. Sidiog for P. & R. R. R. delivery Ship all goods for Suscon, Pa. to Black Diamond Powder Co. Sidiog for N.Y. S. & W. R. R. delivery



An Independent Company in no way connected with a trust
BOTH PHONES
For prompt attention address reply to

Pittston, Pa., June 13/18.

Mr. Thos. A. Edison,

Orange, N.J.

Doar Sir:

We are in receipt of bill of leging showing ship-

ment of raw material. Immediately upon receipt of goods we will make up one batch of powder.

It always requires about three or four days to get one batch through the different processes.

We will telegraph you as goods are ready

for shipment.

Respectfully,

BLACK DIAMOND POWDER CO ..

El Il Grunne HOR.

Estra Colul

Halian

Juno 14,1918.

Hr. Graham Edgar, Tochnical Assistant, Research Information Committee, of National Research Council, 1023 Sixtoenth Street, Reshington, D. C.

Doar Sir:-

A cublegrum of June 11th stating that information is dustred by the Italian Government reparding Edison system of signalling at son invisibility to the substantial bear about one. In replay, the latest with the following shall be communicated by the P. P. Purnud, the Schottiffe Attache of the Communication in Puris for transmission to the Italian Government.

The working model is being made for me at the Koy best level Yard by two mechanics from a submarise. This model should have nerived at Orange before this. I will communicate and find out when it will probably arrived.

The idea is to use three aluminum discs os the first inches dismotor, with one millimotor space between those discs, the surfaces being conted with adult lamphlose. A small aprint filtenent incentions of the contest of the contest

The lamp ic placed as high up on the mast as possible and provided with a wind shield made of sheet colluloid held in a frame. The lamp is thus kent parallel netwithstanding the relling of the ship-

ing mercury and on electric contacts of acup containing mercury and on electric contact so that in case of accident the lamp is cut out before the beam of light reaches each an angle that it can be seen by a submertine.

Experiments made with a pipe filled with very small those, lamphlacked inside, with a filment lump in the center, proved that on the darkest night no light was visible from a height 28 foot above the water when the tubes were to feet, but this only took care of the rolling of the only by the thin the provide of the total provide of the tubes were to feet, but this only because of the rolling of the only by the control of the tubes of the tubes were the tubes of t

There is considerable difficulty in getting the lamps to function properly, but I think the Italians can make a success of it.

As soon as the model arrives, I shall experiment with it and lot thom know, but they should not wait for me as I am very busy on other things.

Yours vory truly.

Min. Feet Graham Edgar.

Jedinical Assistant Committee

of Matienal Research Committee

of Matienal Research Committee

1023 Sintemate St.

Mashington A.Co.

Dear Soi:

Feet callegram of June II.

stating that information is decised
by the Italian forcement segarding
them systim of segarding at sea

there systim of segarding at sea

there systim of segarding at sea

there is a security season of the committee

Mat She following shall be a committee

Commission order to D. W. J. Durand

the Scientific Collarlie of the Committee

In Para for homomore to the Makin fromment

The working model is every made, at Key West naval yard by two Mekahrenics from a subruparing This model should have arrived It Drange before thisx ? will communicate of find out when I will personally century The idea io, 3 disco, 12 mohes sa diamyster, with one willimeter apace between platos, the surfaces bring Contact with Comple A small Spiral felement I incountescent Lances, at the Center sends out two parcalell browns of light. The deaks

are rotated by a small realing making by a small realing per humpter of the as high up or "ment as possible of price of a coile a coined sheet mente of sheet Colliston held in a frame, The lanes to their kept pared of molecular managed affiling.

Lucadion has Geen mais and the of a Cup to the were own of an electric Contract so that in Case of acailant hie were so and and light reaches to Care be pren and a deep that a see because of a see a see acount of the see of a see acount of the see of a see acount of the see of a see a see

Exportments outh a piece while with a piece while with very the word while was a file count would provide the court work was a first was until to the work with the work of the work with the work took dave of Rolling af first or did not provide af the provide

# [ATTACHMENT/ENCLOSURE]

for pitching x It is only by that presents the light to man be seen in every ducation by absences up, say 50 It about the water line anot legan water line which is supposed limit for Dubricarnes -There is considerative deffeccelly we gottime praparley but I Chink the Yalians can make a success of to

Lo soon as model as now I shall Executive it could not would make the phoned not would for me as I am one could for on other through

# [ATTACHMENT/ENCLOSURE]

Blue. Dated June 11, 1918.

Recd. 11, 11 p.m.

Secretary of State,

Washington, D. C.

4170, June 11, 6 p.m.

Eleventh, from Durand for Edgar, National Research Buroau. "Information desired by Italian Government regarding Edison system signaling sea invisible to submarines. Reported lamp with series horizontal thin disc screens but off light except at height equal to conding station."

Im graham Edgar Arall Resour Comine 1063 - 16th

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDIBON.
PRESIDENT.
WILLIAM L. SAUNDERS.
CHAMMAR.
BENJAMIN B. THAYER,
WICE CHAMMAR.
THOMAS ROBINS.
EKCRETARY.

OPPICE OF THE SECRETARY 13 PARK ROW, NEW YORK

JUN 14 1918

To the Members of the Naval Consulting Board:

Floase be advised that the next meeting of the Näval Congulting Board will be held on JUN 22 1916 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clock and the formalmeeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary,

Per S.

CODES | LICEUS MESTERS UND

# Harley-Davidson Motor Co.

Melwaukieie, u.s.a.



IN REPLY REPER TO DESK...

June 15, 1918

Thomas A. Edicon o/o Laboratory Orange, New Jersey

Attention: Mr. Meadoworoft.

Dear Sir:

Order #291270 for a complete motor and transmission has been entered and will be shipped to you today by Adams express prepaid. We are mailing you the blue prints of these accemblice under separate cover.

The motor and the transmission have each been carefully tested and are ready to run.

We thank you for the order, and hope that these parts will aid you in whatever work you are contemplating.

Yours very truly,

HARLEY-DAVIDSON MOTOR CO.

Please when it me Barts & Account to the Manual Walls of the Bow out of the Bow o

uce 17 th 1918 Crautece. Fuses about 25. Time fuses MKXI. WNY & 1915 Lot I E.W.E. R.P.E. about 25. Shropuel Shells. 3" Shoop-Mir VIII-EWE (B) RPE 25- precussion Co.fas for 3" Enfloyet Goseo. 10 the sousheles powde every. p + m don to

Delivered to: SOMOTE Edison Labor East Trange CHARGE TERMS: STRICTLY NE	atories N J	tor Gentlemy, M.X. GRIAND CITY, N.X. GROER DATE & DATE SHIPPED GROER MT Plantiff, SHIP	6 18 18	INVOICE 191 191 ivered
We the interest of the control of th	P 100 1 Ta Motor Memo only.	Chaesie reight gal gas gal gas gul oil x No 2681628	MERIC INVOI	CB -

Chamber of Commerce

KEY WEST, FLA. & June 18, 1918.

Mr. Thoe. A. Edieon; Orange, N. J.

near Sir:-

Enclosed please find confirmation of telegram sent you yesterday.

Our Chumber of Commerce believes that you must realize the importance of Key Weet. If properly fortified and made as First-Clase Note and Sub-Haarine Bees, its location would make it the Keyn the control of the entrance to the Gulf of Mexico. If in the first property is and better the four for command of the Gulf waters, this is the strategic point from which the shipe of our many would receive their supplies and the sole harbor that would be available.

Having brought this matter to your attention, we feel that you will do all in your power for a favorable consideration in the house of the Senate Amendment, which we believe to be a matter of importance to the entire Nation.

Most truly yours,

KEY WEST CHAMBER OF COUNERCE.

SEGRETARY ()

CWC: BIT

#### [ATTACHMENT/ENCLOSURE]

## Confirmation of Telegram

Key West, Fla., June 17th. 1818.

Thomas A. Edison, Sr. Orange, I. J.

Have sets in recent posse report: Sere lower monorage prices to on our in conston mandator to have been sufficient to the our in constoner made out to have been sufficient to the out of the fall providing of substantial monorage of the fall prices of the fall

Chamber of Commerce of Koy West.

Charge Chamber of Commerace of Key West.

A Copy of our Telegram to you this date, which is hereby Confirmed.

# UNITED STATES NAVAL STATION KEY WEST, FLA.

June 18, 1918.

My dear Mr. Edison;-

Replying to your letter of the 14th instant, per Mr. Hanford, concerning the work of the two electricians Payne and Gerbode.

Mr. Morgan reports to me that these men have been working whenever their other duties would permit. Recently the submarines have been quite active and, therefore, the men have not had as much time as they originally enticipated.

I enclose herewith, a copy of a report received from the men to-day, which outlines the progress they have made so far.

I have again directed Mr. Morgan to keep in close touch with this work and to inform me when it approaches completion.

. Trusting that this is satisfactory, I am with great respect,

Sincerely yours,

Thomas A. Edison, Esq.,

Orange, N.J.

Faroauf

#### [ATTACHMENT/ENCLOSURE]

COPY.

U.S.S.K-3. June 18,1918.

From: P.D.Payne, A.G.Gerbode, U.S.M. To: Commandant, U.S.Maval Station, Key West, Fla. Subject: Report on experimental work for Thomas A. Edison.

1. Amount of material drawn by us to date: 12 lbe. aluminum ingot, 11 lbe. magnet wire.

Work received by us from machine chop/material drawn by machinata): 5 branes grow baseds from rolled stock drilled and tepped for balancing screws, 1 brane (cast) gimbal ring with 4 bearing stoke and 2 tapped sholes for studie, 2 iron gimbal ring with 2 bearing stoke and 2 tapped should bear 3 toods rolled stock armature short with clamping screws and 2 tapped should bear, 1 coud rolled stock armature short with wight from rolled brane fitted with 4 corews, 5 aluminum discs with grooves out, 2 iron strengthening pieces fitted to supporting frame, 2 iron brackets with set screws.

- 2. Since Mr/ Edicon's departure we have done the following work on the experiment; After trying out the new motor with gryp wheele we found the properties of the properties o
- 3. Owing to war conditions it is not practicable for us to make an estimate on the length of time required to finish this machine. The greatest dely so far has been capsed by our trips to see and as we cannot foresee those trips it is impossible to say even approximately when the model will be completed. However, we will say that, berring such interruptions, we can probably turn the finished machine over to Mr. Edicon three weeks from date.

Respectfully submitted,

(SIGNED) P.D. PAYNE.

U. G. GERBODE.

Juno 19,1918.

hour Admiral W. Stouther Smith, U. S. H., Eavy Department, Eachington, D. C.

My dear Admiral:

Allow no to hand you horewith our Laboratory bill for experimental work done by irr. Edison covering a poison, Earth Slet, 1918, to June 17th, 1918, at cost, amounting to \$16,491.33. This bill is sont to you in duplicate, certified to by Irr. Edison.

when the check is ready, you can forward it to me as usual.

Yours very truly,

Assistant to Er. Edison.

Enclosuro.

June 19,1918.

Hon. Bonedict Crowell, Assistant Secretary of Lar, Lashington, D. C.

Door Mr. Secretary:

Allow no to hand you horowith our Laboratory bill for experimental work done by Mr. Editon covering a period, Earch Sict, 1918, to June 17,1918, at cont, amounting to \$2,874.31. This bill is cent to you in duplicate, contified to by Mr. Editon.

thon the check is ready, you can forward it to me as usual.

Yours vory truly,

Assistant to Mr. Edison.

Enclosuro.

### NAVAL CONSULTING BOARD

THOMAS A. EDISON. WILLIAM L .SAUNDERS. BENJAMIN B. THAYER. THOMAS ROBINS OF THE UNITED STATES

OFFICE OF THE SECRETARY

13 PARK ROW. NEW YORK

June 19, 1918.

To the Members of the Laboratory Committee

of the Naval Consulting Board:

The following minutes of a meeting of the Labora-tory Committee, held on June 8, 1918, before the regular meeting of the Board, are sent you in accordance with Mr. Saunders' instructione:

A meeting of the Laboratory Committee was held on June 8, 1918, previous to the regular meeting of the Board.

Those present were Messrs. Brunton, Saunders, Whitney, Backeland, Hunt, Sperry, and Woodward. Mr. C. H. Condict was also present.

The report of Mr. Condict dated June 1st was submitted to the Committee and it was unanimously agreed:

1. That a clause be inserted in the report calling attention to the fact that this is the beginning only of a laboratory and that further appropriations will be required:

2. That the list of suggestions for preliminary development and investigation, pages 17, 18 and 19 of the report, be omitted for the present and a statement substituted that a liet of problems and investigations which might be worked out in this laboratory le in the ourse of preparation and will be transmitted later. In the meantime the Laboratory Committee will ask each member of the Board to make suggestions as to these problems.

With the foregoing amendments, the report was unanimously adopted by the Committee and presented to the Board as a whole for approval.

Respectfully

G. C. Irefry In.

Ase't to the Secretary.

Juno 20,1918.

Mr. H. C. Rizer, Chiof Clork, Dopartment of the Interior, United States Geological Survey, Mashington, D. C.

Doar Ar. Hisor: .

by using you to send for in. Minon, two topographs should covering a small section of the thore time of low Jorsey, namely, the thittings should not and the Barmert should it. Edson doubtes there in connection with the coperiments for the Government.

Yours very truly,

Assistant to Mr. Edison.

/5335

June £0,1918.

Henderson Motor Cycle Co... Detroit, Mich.

Gontlemen:

Possibly you may be start of the fact that I have been outputs or special copper means for our Government for the last year and a half. In one of those expectionate upon which I am not working, I would like to use one of our four eyilader engines; the nor model having large displacement, complete with time-mission, gaseline that, pipe connections, etc., such as you further hith your motor cycles.

Nould you be willing to furnish to me one of those power plants separately for use in this special Government work? It would be a great accommodation to the Government and to me.

If your answer is in the affirmative, will you hindly lot me know the wrice and how soon you can make deliver; the sooner the better), and I will have the regular Purchase Order issued by my Purchasing Department.

Yours very truly,

л/5330.

ADDRESS ALL COMMUNICATIONS TO INITED STATES SHIPPING BOARD NEW LONGON, CONN.

PLEASE REFER TO FILE

SHIP PROTECTION COMMITTEE

#### UNITED STATES SHIPPING BOARD NEW LONDON, CONN.

ROOM 413, PLANT BUILDING

June 20th, 1918.

Mr. Thomas A. Edison, Edison Laboratory, Orange, New Jersey.

My dear Mr. Edison:

I wish to thank you for yours or June 12th. You state that you will make a demon-stration of the sea anchors, providing the Shipping Board will let you use, for one day, a cargo boat as she goes out.

Will you take this up directly with the Shipping Beard yourself, or would you like to have me do so through our committee? If the latter, please let me know about what size beat you would prefer, and at what point you would like to make the demonstration, and as nearly as you can, the date when you would want such boat.

Yours very truly.

a. m. shuut

Member SHIP PROTECTION COMMITTEE UNITED STATES SHIPPING BOARD

Any Cargo boat with 4000 ton loaded which is proceeding to sea the or you sandy Hook going to Europe or Coast coise. Your preclably make Coast coise. I have been she can AMH/RL

proceed - In some cases & belowe Cargo coato anchos muchos hack quait for orders, any one of these locals could go centon feeling banks make tool a seclulur to anchorage it the Hook

June 21,1918.

Hr. A. H. Hunt, Mombor, Ship Protection Committee, United States Shipping Board, How London, Co:m.

Dear Mr. Hunt:

I have received your note of the goth instant, and believe that we can probably make more progress through your committee than I could other ise do in arranging for the use of a cargo beat as the goor out.

I could use any carge beat, leaded with, say, about 4,000 tons, which is proceeding to see wis sandy iloc, going to Suron or sailing Constitute. Probably I can make the test in about six hours, and then the can proceed.

I believe that in some cases carge beats each or inside of the Hook and that for orders. Any one of those beats could so out as far as the Tiching Banks and make the test, returning to anchor at the liching Hook.

Yours very truly,

i/5336.

Juno 24,1918

Harley-Davidson Motor Co., 3800 Chestnut Street, Milwaukee, Mis.

Contlemen:

Heforing to our provious correspondence regarding one of your proory plants and tenumination complete, which you have already forwarded, irr. Edison one doutrees no to request that you ship him at once, one angine approach with bolt pulley expectally desired for "bell test" demonster; legine Edeol 18 P.

will you, therefore, kindly onter our order immediately for this, and as soon as I hear from you as to price I will have our Purchasing Department sond the necessary Purchase Order to cover.

Prompt delivery to ir. Edison of this ongine specket, etc. will be facilitated by addressing same in my care.

Yours vory truly,

assistant to Er. Edison.

June 24.1918.

Commanding Officer, Community Officer, Camp Upton, Yaphank, H.Y.

Sir:

This will introduce my son, Thoodore Edison. He is doing some work for Secretary Baker, and desires to get some actual data on Tromches, Japrage and Mortur firing.

Commonding him to your courtosy, I am, hespectfully yours,



June 24, 1918.

Thomas A. Edison, Orange, N. J.

Dear Sir:

In reply to your letter of June 20th, addressed to the Henderson Motorcycle Co. of Detroit, Mich.:

You will note by the stationary on which this letter is written that HENDERSON motorcycles are now manufactured by us.

We take pleasure in quoting you a price of \$225.00 on the new HENDERSON motor with 70-inch displacement, complete with transmission, gasoline tank, pipe connectione, etc.

Upon receipt of your regular purchase order, we will instruct our Production Department to pick an especially good motor for you and to ship immediately.

5358

Youre very truly,

Mr. Theo Edines EXCELSION MOTOR MFG. & SUPPLY CO. Manager of Sales. N. Örd. e

IN REPLY ADDRESS
BUREAU OF ORDNANCE, HAVY DEPARTMENT
AND REFER TO NO.

---

34130/366 (Q1) FF NAVY DEPARTMENT

BUREAU OF ORDNANCE

WASHINGTON, D. C.

Bureau

Subject: Shipment of Shrapnel Shell.

Sir:

The Bureau understands that you have requested from Lieutenant Commander R. W. Clark, New York Navy Yard,

25 3" Shrapnel and 25 Time Fuses

for use in certain experimental work.

The Bureau has directed the shipment to you of this material from the Naval Acmunition Depot, Iona Island, N.Y.

The Bureau requests information at your convenience as to the purpose for which these shell will be used, and as to the progress of such tests as you conduct therewith.

Respectfully,

(5368)

Trinkain

Lieutenant COmmander U.S.N. By direction of Chief of Bureau.

Mr. Thomas A. Edison,

West Orange, N.J.

On the beauty

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hollo ---- c

, v.

UNITED STATES SHIPPING BOARD NEW LONDON, CONN.

SHIP PROTECTION COMMITTEE

UNITED STATES SHIPPING BOARD

NEW LONDON, CONN.

ROOM 413, PLANT OUILO

June 25th, 1918.

Mr. Thomas A. Edison, Edison Laboratory, Orange, New Jersey.

Dear Mr. Edison:

I am in receipt of yours of June 21st stating that you think probably our commit-tee can make more progress than yourself in getting the use of a cargo beat to try our your sea amelor.

You do not state in your letter what date you would like to make such test, and I shall call up Mr. Meadoworft on Thursday of this week from my New York office, and get this information.

I rather expect to go to Washington for Saturday of this week at which time I shall take the matter up and try to get the arrangements made.

Yours very truly,

a. m. Hunt

Momber. SHIP PROTECTION COMMITTEE UNITED STATES SHIPPING BOARD.

ALH/RL

IN REPLY ADDRESS
THE SECRETARY OF THE NAVY
AND REFER TO NO.

# NAVY DEPARTMENT WASHINGTON

WSS/VR

June 25, 1918.

My dear Mr. Edison:

I enclose you correspondence on the subject of the experiment of Mr. Bruse R. Silver, who is one of your assistants and is now engaged in work in conjunction with Mr. Walter T. Scheele.

Will you please carry Mr. Silver as you have heretofore done and render his accounts as an experiment carried on by you?

Kindly return the correspondence for my files.

Sincerely yours,

Josephen Daniel

Mr. Thomas A. Edison, Edison Laboratory, Orange, N. J.

5367

WAR DEPARTMENT, WASHINGTON.

June 25, 1918.

My dear Colonel Phillips:

This will introduce to you Mr. Thomas A. Edison. I would like to ack that he be admitted to the Proving Grounde and that you extend to him any courtosies that are possible and proper. Probably he will be accompanied by Mr. Theodore Edison, for whom I am writing a similar latter.

Cordially yours,

munisalles NEWTON D. BAKER

Secretary of War.

Colonel William A. Phillips.

Abordeen Proving Grounds, Md.

rd

WAR DEPARTMENT, WASHINGTON.

June 25, 1918.

My dear Colonel Phillips:

This will introduce Mr. Theodore Edison, son of Mr. Thomas A. Edison. I would ask that he be extended the courtesies of the post.

Cordially yours,

NEWTON D. BAKER Socretary of War.

Colonel William A. Phillips, Abordoen Proving Grounds, Md.

re

Juno 26,1918.

Er. A. M. Hunt, 55 Liborty Street, New York, M.f.

Dear Er. Hunt:

Your favor of the 25th instant to Mr. Edison has been received and shown to him on his return to the Laboratory this afternoon. Ho is quite busy, and has asked me to roply for him.

Let us may that just at this time he cannot mention a dofinite due on which he would like the make the doff like the let us that his best will be in the not/phorhood of Eardy Hode practically all the tine, and the Captain like the like the let us the like the like

Intermed as there are usually covered our rebeats at another in the instruction that for conveys, inletion thinks that possibly you might be able to get an onen permission to this one of those beats out as far as the fishing lanks for the test, after which she could be a might be a might be a for a first one of the convey.

If this can bo dene, it would be the mest convenient way of arranging the matter.

Yours very truly,

Assistant to Mr. Edison.

A/53b3.

Juno £6,1918.

Excolsior Notor Hfg. & Supply Co., 3730 Cortland Street, Chicago, 111.

Contlemon: Atton: Er. 2. h. Hondorson, Egr. of Salot:

Your favor of the 24th instant has been received, be them; yet for your prompt rouly to our latter and also for your prompt rouly to our latter and also for your quantition on a new Hemdonson motor with 70-inch directlements, complete with transmission, gentline tank, piec commertions, etc.

Herowith you will find our regular Purchaso Orear for the summer and you will note that the shipment is to be addressed:

( Lebosetory of Thos. A. Edison, )

( Jrango, New Jorcoy, )

( Attentiv. Mondower of t.

findly be cure to have your packer mark this accordingly.
Yours very truly,

Assistant to Mr. Edison.

n/5358.

Enclosure.

June 27,1918.

Hon. Hewton D. Bekor, The Secretary of Mar, Mashington, D. C.

Door Pr. Baker:

we are proparing now for some practical trials of the device invented by my son Theodore, and expect to go down to the abordeen Proving Grounds in the near future.

one of the items in our program will be the exploding of bombs containing rather large quentities of ?. H. T. I find upon inquiry that those bombs can be loaded with ?. H. T. at the Fleatinny arrenial and that they can be chipped thence to the Proving Grounds at abordeon.

It will be necessary, however, for the Commanding Officer at Picatinny to have authorization to load and ship such bombs.

" two bombs " drums " 60 " " oach.

As there is good reason for proceeding with these experiments with the least possible delay, may I suggest that this authorization be issued as soon as possible.

Yours very truly.

leges.

### [ATTACHMENT/ENCLOSURE]

8 × 30 = 325 lbs. 1 8 × 22 = 176 lbs. 1 4 × 18. = 68 lbs. 2

VXXXXXXX

Juno 27,1918.

Subject: Shipment of Shrapnel Shell:

From: Chomas A. Edison, Orange, H.J.

Liout. Cdr. T. S. Milkinson, U. S. H., Bureau of Ordnanco, beshington, D.C.

20:

I am in receipt of your favor of the 25th inct., reference 24120/266 (Q1), in regard to the shipment to me of 25 3" Shrepnol and 25 Time Fuses for use in certain experimental work, and thank you therefore.

In roply to your request for information as to the purpose for which these sholls will be used, lot no tay that I desire to have them for experiments on smoke producting shells.

Respectfully yours.

A/5368.

let of

Juno 27,1918.

Col. wm. A. Phillips, Abordeon Proving Grounds, abordeon, Md.

Dour Si: :-

I did not have the pleasure of meeting you on a visit which I made to the Proving Grounds recently in company with my son Theodore. We met Captain Loomie, and explained the nature of our visit, and received very courteous attention from him.

Contain Locais has probably explained to you that my son Thoodore has developed an invention thich is likely to be useful in any operations, and that Courseary Saker has authorized the use of a searly piece of the Aberdeen reporty for further and final development. Let are heping to be done to Aberdeen lin a work or ten days to succeed with this work, and becretary Saker has given us justices of introduction to you.

A preliminary part of our program will be a study of the effects of explosion of four bombs filled with S. H. T., and I am now writing to sob whether your lange is large enough to provide for the discharge of the following bombs:

I have asked Secretary Buker to authorize the Ficatinny arsonal to fill those bends of T. J. T., and if I hear from you that you can afford facilities for the detenuition of those becker. I will sek that they be forwarde direct to you. Be gum will be required. be explained the matter to Captain Loomit, and I think you will find that he understands the details of our properties.

At the place where the bombs will be exploded, to would like to have two tronches built, with the repular wire enturing ments, as shown in the Gretch sort you have the Thronches should be of the regulation type, with the walls reinforced by loss or timbers. Let me add that it is not expects that the bombs shall be exploded on that section of the Proving Grounds which has been picked out as a location for the final development of the invention in question.

I shall be gled to hear from you at your early convenience on this matter.

hospoctful; yours,

A/5366.

June £8,1918.

Information Section, War Dopertment, Room E - 223, 6th and B Streets, Lashington, D.C.

Gentlemen:

I would like to receive the "Ordnameo Sulletin of Information". I understand it to published weekly. All you kindly put my meme on your list, and address the bulletine, Thomas A. Edison, Jrance, h.J., <u>Trivate and Personal</u>.
Your very truly.

./1374.

### [ATTACHMENT/ENCLOSURE]

Mir Edison : The attached may prove of interest to fou. I get them negularly. If you want thism for can have them mailed to for weekly by addressing Suformation Section, Warmy Rom 2-223 Grap B, 69+B Sta Wash. D.C. Hutch (5374) Meadwardf have them cent to Ms

June £8,1918.

Commending Officer, Picatinny Arsonal, Dover, H.J.

Doar Sir :-

a for days age melting the true and in the late of the segment of the second and the contains should be declared as the second and the second as the second

In the meantime, ir. Edison thinks it is desirable to forward the shells or drame to ou so that they will be on hand when the authorization is received. These will be delivered to you, helcuith, and the bearer will be able to explain to you just what is desired.

Yours vory truly.

Assistant to Er. Edison.

U. S. SHIPPING BOARD BUILDING DIS F STREET NW.

# UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION WASHINGTON

June 28, 1918.

Mr. Thomae A. Edieon,

Orange, New Jersey.

Dear Mr. Edieon:

I emclose copy of a letter signed by Mr. John A. Donald, Member of the United States Shipping Board in relation to test of the sea anchor.

I hope this will bring about the desired results. If I do not hear anything from it in the near future, I shall stir the matter up again.

Yours eincerely,

a. m. ount.

Member, Ship Protection Committee.

Enclosure.

AMH: CMP

#### [ATTACHMENT/ENCLOSURE]

June 28, 1918.

Mr. E. F. Carry. Director of Operations,

U. 3. Shipping Board,

Washington, D. C.

Dear Sir:

used in rapid turning of vessels to avoid torpedoes when notice of their approach is given by indicating devices.

He is desirous of having a test of this sea anchor made on a vessel of about four to five thousand tons loaded displacement.

This matter is considered of sufficient importance to justify prompt and enorgetic action to have the test carried out.

The following is a quotation from a letter of in.
Edison's Assistant to br. 1. M. Sant of the Ship Protection Committee, who has been following this matter up with Mr. Edison.

Edison says that just at this time he cannot mention a definite date on which he would like to make the test, but that his bent will be in the neighborhood of Sandy Hook practically all the time, and this Cuptin is tue one who would superintond the test. There will be some little own. In preparation before the test oun be made.

Inasmuch as there are usually several carge beat anchor in the Barbor, waiting for convoys, Mr. Edison thinks that possibly you might be able to get an open permission to take one of these boats out as far as the Piching banks for the test, after which she could return to her anchorage in the Barbor and wait for a convoy."

Framed for. I suggest that you have the New York office get in touch with Mr. Discount without charge, according exactly what is mosted, and have that office co-operate with his to the end that the test he desires can be made as soon as possible.

Please have the Ship Protection Committee advised of all

### [ATTACHMENT/ENCLOSURE]

E. F. C. 2

steps taken, and send copies of all information to A. M. Hunt, 55 Liberty Street, New York City.

Very truly yours, (Signed) JOHN A. DONALD.

Counissioner, U. S. Shipping Board.

AMH/LH.



Mr. Edisory's Comments on M. B. D. Report of Committee on Laboratory Side Laboratory Side Internal I entirely disagree with the report of a majority

of the Committoe in almost every instance. Their idea of the character of the Laboratory is quite different from that

which I have always considered.

The Government already has a Research Laboratory in the Bureau of Standards, where there is plenty of ground and a fine working force capable of unlimited extension.

The Government also has a Secting Laboratory at annapolis, where efficiency constants and effectiveness of liaval Hachinery can be and already are tested. There are other Rosearch Laboratories connected with the various Dureaus.

The Government has no Laboratory arranged on special

lines, whereby ideas, suggestions and adaptations of the latest discoveries or inventions can be carried out, constructed and tested with great rapidity. Such a Laboratory need not do any extensive rescarch work for the reason that in 95% of the cases the work will be done under known facts, (of thich there is an almost unlimited number ready to be used) without the necessity of deep scientific research. This Laboratory chould be operated on a War-time basis where extreme rapidity of construction of the various appartus; and devices and the testing of the same form the only excuse for its construction.

The long and necessary delays in the usual Research
Laboratories should be diversed from a Laboratory of this
character. Such research work can be done elsewhere, ( 1 )

at the Burcau of Standards (2) at other Government Research

Laboratories, and (3) through special business arrangements

and Colleger

with many of the large Companion having Research Laboratories.

while Annapolis might be a good place for a honoarch
Laboratory of the usual type, it would be totally unfit for a
practical Experimenting Laboratory constructed and operated on
the lines which I have immgined. Such a Laboratory as last
montioned, to be successful, should be as near How York City
as possible, (1) in order that materials can be obtained quickly
(2) where the business heads of the principal industries reside.
and (1) from whom rapid action is obtainable.

The only site near enough to New York City (1) where

no interference is possiblo, (2) where there is already a Proving-ground, (3) where unlimited land is obtainable, (4) where secrecy is easily secured, (5) where Hydro-Leroplanes and Submarines can be operated and tested under actual conditions, is the site covering 1300 acres at Sandy Hook, already owned by the Government, and not one-third of which is now being utilized. Sandy Hook is 2-1/2 hours distant by Railroad and one hour by Motor Boat. Two Street Cur Lines, 1 Steamboat Line and 1 Railroad Line touch one end of the Hook, and there is a large number of villages adjacent thereto.

the money already appropriated well walk make a good state, and should their proposed beforething muche good, Congress with undowhlade, appropriate

Naval Consulting Board and Related Wartime Research Papers Correspondence July 1918 All communications should be addressed to "The Chief of Ordnance, U. S. Army, Washington, D. C."

WAR DEPARTMENT OFFICE OF THE CHIEF OF ORDNANCE HD/ems \

WASHINGTON

In replying refer to No.

July 1, 1918.

Mr. Thomas A. Edison, ORANGE, New Jersey.

My dear Sir:-

I am directed by the Acting Chief of Ordnamoe to acknowledge the receipt of your letter of June 28th, and to advise you that your name has been placed on the list to receive copies of the Bulletin addressed in accordance with your instructions.

Respectfully,

H. E. ATTERBURY, Major, Ord. R. C.

offer

#### EXPERIMENTAL AND DEVELOPMENT ENGINEERING SERVICE LABORATORY OF THOMAS A. EDISON.

- Mr. W. H. Meadoworoft	REFER TO MEMO. # A3-	
UBJECT:- Laboratory equipment	DATE: July 2nd, 1918	
EFER TO:-		
ROM:- John P. Constable		

Referring to our conversation on the subject of new machinery, which I feel is necessary for the completion of the Laboratory equipment, would you be kind enough to draft me up a letter to the Secretary of the Navy which I can take to Mr. Edison for signature.

What we wish is for Mr. Edison to ask the Secretary of the Navy, who would be kind enough to ask the Priorities Committee, to grant Mr. Edison priority for the obtaining of the following list.

. From Brown & Sharpe Hammfacturing Co., Providence, R. I.

- 1 #3 Brown and Sharpe Cutter and Reamer Grinder,
- 1 #2 Surface Grinder,
- 1 Magnetic Chuck, 1 - Universal Grinder.

From the Hendy Machine Co., Torrington, Conn.

- 1 14" x 6" Engine Lathe. 1 ret of chucks -1/8 to 5/8 ".
- 1 #2 B Hendy Milling machine.

The approval for this equipment has been passed by the Laboratory Executive Committee and I have placed requisitions for same but am unable to get delivery promises better than October and December of this year, and March of 1919.

This equipment is necessary in order that the Laboratory may be rearonably equipmed to handle the general class of work which we do, and as you will note comprises almost all precision machinery of which we are very weak at the present time.

If you will kindly do this for me as soon as possible I will be greatly obliged.

JPC :GAP

file: Copies to:-

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PREHIDENT,
WILLIAM L. SAUNDERS,
CHARRIAN,
BENJAMIN B. THAYER,
THOMAS ROBINS,
HICKETARY,
HICKETARY,

OPFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

July 2, 1918.

To the members of the Naval Consulting Board: Dear Sirs:

This is to advise you that as decided at the last meeting, Mr. Saundors has arranged with the American International Corporation for the Board to visit the shipbullding plant at Hog Island on Friday, July 12th. It is expected that a meeting of the Board will be held during this visit.

The members of the Board will meet in the lobby of the Bellovue-Stratford Hotel, Philadelphia, on the arrival of the Pennsylvania train leaving New York at eight A.M. The Secretary of the Navy intends to make this visit with the Board.

The American International Corporation asks particularly that it be advised as soon as possible of the number and the names of those who will visit Hog Island. I would therefore request that you advise me of your intentions by means of the enclosed blank.

A later notice will be issued covering further details.

Jhomas Robins pur 9. J.

TR/gt

Gulle States "Edison New York"

"Nowot" Trom the Laboratory Thomas A. Edison, Orange/Afr suzz s, As.

Prorities Committee, mashington, D.C.

Gentlemen:

Possibly you may be aware of the fact that for the last eighteen months I have been conducting a serios of experiments for our Government at the request of the Secretary of the Havy.

In carrying out these experiments I have used all the resources of my laboratory, including the two machine shops which from part thereof. This experimental work would be much facilitated if I could obtain without delay some additional equipment in the line of machinery, but in shopping around to purchase same the best promise of delivery I can get is from four to nine months.

The blank applications for priority furnished by your Committee do not provide for a case of this kind, as they are intended to cover cases where the applicant is manufacturing specific articles for the Government on a commercial basis. Whilemy work is for the Government it is of an experimental nature and cannot be described as called for on your experimental blanks, it is such that the benefit of a priority orders might very well be extended.

The following is a list of the equipment I

desire:

From Brown & Sharpe Manufacturing Co., Providence, R. I.

- 1 #3 Brown and Sharpe Cutter and Reamer Grinder,
- 1 #2 Surface Grinder,
- 1 Magnetic Chuck. 1 - Universal Grinder,

From the Hendy Machine Co., Torrington, Conn.

- 1 14" x 6" Engine Lathe
- l set of chucks -1/8 to 5/8". 1 - A B Hendy Milling machine.

-2-

I trust your Committee may see its way clear to issue the necessary priority orders in these circumstances.

Respectfully yours,

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

A. M. HUNT 55 LIBERTY STREET NEW YORK Hum

July 3rd, 1918.

Mr. Thos. A. Edison,

Orange, .i.J.

Dear Mr. Edison:-

WILLIAM L. SAUNDERS.
CHAIRMAN,
DENJAMIN B THAYER,

I am enclosing copies of two letters from the "History, Assistant to Director of Operations, who was instructed at a recent meeting in Washington of the Ship Protection Committee, to take steps to make available a vessel for tests of the sea anchor, and also carbon copy of letter which I have written this day to Captain Yates, Wanaging Agent of the U. S. Shipping Board in New York City.

I may spending most of my time now in New

London and would be glad to have you keep me advised, by letter through my office in New York whether or not steps satisfactory to you are taken in the matter.

Yours very truly.

a. m. Huit

AMH-H.

NW" Seth - assistant to Bapt years 7360

\_ C O P Y \_ \_

July 2nd, 1918.

Commissioner Donald, U S. Shipping Board, Washington, D. C.

Dear Sir:-

#### SEA AMCHOR.

I beg to acknowledge receipt of your letter of June 88th with reference to sea anchor developed by Mr. Thomas A. Edison, to be used in the rapid turning of vessels.

In accordance with your instructions, I am arranging with Capt. Yates to get in touch with Mr. Edison and make the necessary arranguents

I presume it will not be necessary to make any extensive alterations in the vessel which would require a loss of time. However, we will see that the tests are made and report to the Ship Protection Committee all steps that are taken.

A copy of this letter goes to Mr. A. H. Hunt, 55 Liberty St., New York, for his information, as well as copy of letter I am addressing Capt. Yates.

Yours very truly,

(Signed) C. D. Hallory

Assistant to Director of Operations.

## COPY.

July 2d, 1918.

Capt. Yates, Managar Agent, U. S. Shipping Board, Custom House, Kew York.

Dear Sir:-

"SEA ANCHOR.

The Ship Protection Committee, through its Chairman, Commissioner Donald, has requested that Mr. Thos. A. Edison be given an opportunity to demonstrate and test a sea anchor which he has developed, and which is to be used in rapid turning of wessels to avoid torpedoes.

It is suggested that a steamer awaiting convoy in Hew York be utilized for this purpose, and you will please arrange to immediately get in touch with Hr. A. H. Hunt, 55 Liberty St., Hew York, representing the Ship Protection Committee, and also Mr. Edison. Hr. Hunt can probably arrange this for you.

Please adviss Mr. Hunt of any action you take in this matter, also keep me fully informed so that the Ship Protection Committee here may be advised.

Yours very truly,
(Signed) C. D. Mallory.
Asst. to Director of Operations.

July 3rd, 1918.

Capt. Chas. Yates, Managing Agent, U. S. Shipping Board, Custom House, Hew York City.

Dear Sir:-

I am in receipt of a copy of a letter addressed to you under date of July 3nd by C. D. Mallory, As.ista..t to Director of Operations, in relation to test of San Anchor daveloged by Mr. Edison, in which you are asked to git in touch with me and also with Mr. Edison.

I as in Now Loudon most of the time on experimental work and it is probable that you will link mychownt from the city. I would suggest hat you call he is no more of the Edward Personal massistant brough the Her Doy of the of the Thou. A Editor, Inc., Corthandt 8566, and take up the matter with him.

latter to you and also of the letter a distance to you and also of the letter a distanced to you by Mr. Mallory, so that he will be fully informed of the stutist actuation in case you should call up. I as suggesting that you call up Mr. Meadowardt rather than Mr. Edwardt on account of the latter's difficulty in hearing.

Yours very truly,

Member Ship Protection Committee. United States Shipping Board.

AMI-H.

Copy to Mr. Thos. A. Edison, Orange, N. J.

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON, PRESIDENT, WILLIAM L. SAUNDERS, CHARMAN, BENJAMIN B. THAY'ER, THOMAS ROBINS, BECHTARY.

OPPICE OF THE SECRETARY IS PARK ROW, NEW YORK

July 3, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

The Standard Aircraft Corporation has just telephoned to this office inviting every member of our Board to visit its works at Elizabeth, M.J., on Saturday, July 6, in order to witness demonstration flights of the first Handley Page and Caproni acoplenes equipped with liberty engines.

The Handley Page will be driven by two 400 H.P. Liberty motors and the Caproni by three motors of the same type.

The Standard Aircraft Corporation will have busses at the Elizabeth Station to meet the Central Railroad of New Jersey train which leaves Liberty Street, New York, at 11 A.M., and West 23rd Street at 10.50. They will also provide us with lunch and a room in which to hold a meeting.

The flight itself will not take place until three P.M.

If you have not already advised me of your intentions, kindly do so at once by telegraph in order that I may notify the Standard Aircraft Corporation of the number to be provided for.

Mr. Coffin telegraphs that he will attend this meeting and adds, "Believe you should arrange to have Board meeting at Elizabeth, as this event will be a historic one in American aeronautic development".

The Chairman of the Board, acting on the authority given him at the last meeting has called a special meeting for next Saturday, to be held at the works of the Standard Aircraft Corporation, Elizabeth, N.J., some time during our visit.

Very truly yours,

Thomas Robins, Secretary.

July 5,1918.

Hr. A. H. Hunt, 55 Liborty Street, Hew York, H.Y.

Door Mr. Hunt:

the receipt of your reverse me to acknowledge the receipt of your rever of the 38 instant encioning content of two acknowledge or in the instant on birector of uperations, and also carbon copy of a letter which you wrete to Captain Yates, and to thankyou for your kind attention in this matter.

We will advice you later as to the progress we make in connection with this test.

Yours vory truly,

Assistant to Mr. Edison.

A/L408.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PACE OF THE THOMAS A. EDISON.
BENJAMIN 8. THAYER.
THOMAS ROBING.
SECRETARY.

OFFICE OF THE CHAIRMAN

11 BROADWAY, NEW YORK

,

Thomas A.Edison, Esq., Orange, N.J.

Dear Mr.Fdison:-



As a Director of the American International Corporation, and member of the Maval Consulting Spard, I am earnestly hoping that you will join our party which goes to Hog Island next Friday, the 12th inst.

The Secretary of the Mavy assures me that he will be present with some weathers of his stuff.

Philaielphia, about 10:30 Friday sorning. The 2 o'clock train from New York will take us to Philadelphia on the sorning of the viet. You can return on the 4 or 5 o'clock afternoon train from Philadelphia to Hew York the ease day.

I do not think the journey will be festewing because we go from the Sellewue-Stratford by automobile to Hog Island, and all over Hog Island by automobiles. The roads over the plant.

has to walk about and look into details. The main thing about Hog Island is the tout on semble. We shall probably go from the cutomobile to a boat on the Hiver so se to see the mays, which stretch for a little over a mile along the banks of the Delkamer.

Luncheon will be served at Hog Island.

This, as you know, is the greatest fabricating shipbuilding plant in the world. Beginning next month, or soon thereafter, it is expected that a ship of about 7500 tons will be launched there every other day.

I earnestly hope that you will be with us. Bring your Secretary, or any one else, along if you wish.

Please let me know if we may exrect you.

Cordially yours,

Wysaman

Er. W. L. Saunders, Chairman, Eaval Consulting Board, 11 Broadway, Now York, N.Y.

Doar Mr. Saundeis:

Your letter to Hr. Edison of yesterday's date in reference to the visit to Hog Island next Friday was received and shown to him this morning.

He wishes me to express his regret that he will be unable to join you on this visit as he is but; on some very important experiments which he cannot leave, even for a day.

He is back at his old trick of working until two or throe o'clock in the morning and seems to be quite happy about it.

Yours very truly,

Assistant to Mr. Edison.

A/5422

Moin Office: PITTSTON, PA

es MAIIANOY CITY, PA



# BLACK DIAMOND POWDER CO. HIGH GRADE EXPLOSIVES



Mills at HAUCKS and SUSCON, PA.

Ship oll goods for Houcks, Pa. to Block Diamond Powder Co. Slding for P. & R. R. R. delivery Ship oil goods for Suscon, Po. to Black Diomond Powder Co. Siding for N.Y. S. &W. R.R. delivery



An Independent Company in <u>no</u> way connected with a trust BOTH PHONES For prompt attention address reply to

Pittston, Pa., July 10/18.

Er. Wm. H. Meadowcroft.

Orange, N.J.

Doar Sir:

We delivered powder on Saturday by auto. We made incurry from the Bureau of Explosives, which is connected with the Railroad company, concerning their willingness to accept these geods for shipmont. They asked us a number of questions which we anowered, but up to date have no t received their reply, but presume that they will accept the shipments made of this material. if you should require more.

As this lot was for experimenting we put it up in two ways, that is, polished without any graphite, and the balance glazed. We think the glazed would caus e a trifly more smoke and somewhat protect the goods from moistur o.

If there is anything further that we can do in this matter, we will be pleased to do so.

We would thank you f or the number of your license, which the government now requires fr om all manufacturers, vendors and investigators. We should have the number of your license on file in order to comply with the go vernment requirements.

Thanking you for your attention to the matter, we are Respectfully,

BLACK DIAMOND POWDER CO., B/Braum:

July 12,1918.

Thomson-Levering Co., 325 Arch Street, Philadelphia, Pa.

Door Sirc:

Inferring to my conversation with your inThomson on the tolephone this siteman, I begt to device
you that in lation would like to have you go shoot and
sake my fan of the line reletance boxed such with a
fine the lation would like to have you go shoot such
that converted by him for a particular expend out for
the Government which is very unport, and dollvery is
decired as quickly as possible. I will mail you a furchase
order covering the above tomorrow.

The number so the two boxes we have are accounted by the control of the box, under the name. At the bottom of one of the boxes is the number 1184-0. There is no Ex or Ex on other the control of the boxes is the number 1184-0. There is no Ex or Ex on other the two boxes, I will not ask the bestern Leavise of the number of the control o

In any event, I trust you will proceed immediately with the manufacture of those two resistance boxes.

You's very truly,

assistant to Hr. Edison.

July 13,1918.

Captain Sates, Picatinny Arsenal, Dover, H.J.

Dear Sir:-

will deliver some to the Aberdeen Proving Grounds, the drums which you have had loaded for me, and oblice,

Yours very truly,

1/5449.

July 13,1918.

Captain Loomis, Abordeon Proving Grounds, Abordeon, Ed.

Dear Sir:-

The bearer has the four iron drams containing the first for our experiment, also three storage colls and three short longths of iron pipe. thill you please take charge of those articles for us. pure of those articles for us. The truckgan will dispute of them are you may alreet.

Yours very truly,

A/5450.

July 13,1918.

Councilman W. F. Hohr, best Orango, H.J.

Dear Mr. Hehr:

pormission to our; on thece sconiess such oxclosives as he require is connection with the exposite such oxclosives as he require is connection with the expositence that he is enzyling on for our voverment. Those explosives would not be in large quantities, and would consist of gan powder, gan ection and 2.1. 2.

Will you kindly make an application to the Council for issuance of such a poimission.

Yours very truly,

Assistant to Er. Edison.

n/5451

# THOMPSON-LEVERING COMPANY

ELECTRICAL MEASURING INSTRUMENTS
HIGH GRADE THERMOMETERS
SCIENTIFIC APPARATUS

323 ARGI STREET
PHILADRIPHIA, PA., July 13, 1918.

Mr. Thomas A. Edison, Attn. Mr. Wm. H. Meadowcroft, Orange, N. J.

Dear Mr. Meadoworoft:-

Confirming our telephone conversation of this morning. we will start work immediately on two (2) 30 Mile Receiver Shunts, made in accordance with Western Electric Dwg. ES-160111, which will be a duplicate of the boxes which you have. The ones now in your possession, namely #4802 and 4727, were built by us for the New York Western in 1916 and are in accordance with the above ES number. We also will appreciate a letter of authority from the New York Western. advising us that it is perfectly satisfactory to them that we deliver these to you, for as I explained to you over the telephone, it is one of their developments and not being of our own engineering, they are, therefore, furnished only to the Western Electric Company and on orders authorized by them. We know, however, from the writer's talk with you will be perfectly satisfactory for you to have them and should they be finished before we receive the authority from the New York Western, the writer will personally call them on the telephone for verbal authority, so that

every respect at all times.

wjt/va

Yours very truly, THOMPSON-WEYERING CO.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESENT.
WILLIAM L. SAUNDERS,
CHARKAN,
DENJAMIN B. THAYER,
WICE CHARKAN
THOMAS ROBINS,

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

JUL 16 1918

To the Members of the Naval Consulting Board:

Please be advised that the next meeting of the Naval Consulting Board will be held on JUL 27 1918 in the Carnegie Institution, Washington, D. C.

The preliminary meeting begins at nine o'clock and the formal meeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary,

Per f. J.

ir. W. S. Androws,

Engineering Dept.,

General Electric CCo.,

schenoctady, No. York.

M; door Mr. Androws:-

Some time ago you told me that the Company had a liquid cir machine at your works there, and that they made a quantity of liquid air from time to time. In fact, you unid that you could come down here come day and bring one or two gallons to show to ir. Páison.

If conditions are still the same, I am sure that the Company would stand ready to supply some liquid six to the Government for some confidential experiments now being conducted. In that case it would be very helpful to our country, and I should be glad to put the proper Government officials in touch with the proper person at Schenectady.

will you kindly advise me. Lith kindert regards.
I remain

Yours sincorely,

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PRESIDENT.
WILLIAM L. SAUNCERS.
BENJAMIN D. THAYER.
THOMAS ROBINS.
EGGETABY.

OFFICE OF
W. R. WHITNEY
GENERAL ELECTRIC COMPANY

July 19, 1918

Mr. Thomas A. Edison, President,

U.S. Naval Consulting Board,

Orange, N.J.

Dear Mr. Edison:

Isn't it a good idea for the Naval Consulting Board to get bihind the fellows working at New London and, as well a spossible, help develop your larger plan of a Navy experimental department there? So far as submarine detection work has gone, the New London group has done well. They have shown their willingness to do radical things. I understand that MoDowell is unpopular in some bureaus because he goes so far. Isn't that a good sign?

Taking conditions as they actually are, not as we might wish them, I cannot see a practical way in years of getting general experimental work powerly taken care of in our Navy thru the entirely untried, unstarted Washington plan. I guess that plan is really on the shelf. It must look to the Secretary, after hearing his many divergent advisers, as the the safest step was to wait. Troubled with all sorts of material-priority and labor-scarcity difficulties, I should hate to advise a start on a new, comprehensive program of building and equipment, but the thing could grow. This is really being allustrated at New London.

It looks so simple to me that I want you to think the idea over. If you favor it, I think most of the Board would do so. I don't like our being stalled so long.

If you do not want to bother with this and will express your ideas to Dr. Hutchinson, I can talk with him about it.

These are some of the points in favor of the plan:

- There is already established on the water-front a\_t New London a fine growing nucleus for a laboratory, but devoted now to only a part of Navy needs.
- 2. It is already a child of the Navy, in which the Navy takes interest, but it is based on civilian work.
- 5. It has a Navy officer in command who is young, active, and ambitious, and who seems to appreciate experimental work. His work should be appreciated and greatly broadened. He can cooperate with outsiders.
- 4. It has several good experiments already on the staff, such as Mason, Bridgman, Pierce, and Merritt. Others, like Pupin, Whitehead, Langmuirm Chaffee, and Cady, are cosperating well.

5. It already has quite a large physical equipment, a good mechanic's shop well manned, good dock or wharf, offices, large foundry (practically on the ground), a small ship-way with apparatus for drawing out and launching submarine chasers, good nearly built quarters for the workmen, a concrete exparimental tank under cover (20 ) 30), etc. Really about sverything is there which we planned except as for size, and there's plenty of space to grow.

6. It is well located with respect to salt water. It is particularly well located for experiments with small boats and with submarines (the submarine base is only a short distance up the river). It is a good location for general labor, and as most of the labor become enlisted Navy men, a better place could soarcely be found. Plenty of Navy men would always be quickly available at this place. It could scarcely be sxcelled from the point of view of material supplies (your strong point). No part of America is so well fixed for formed brass, copper, and iron. No where else is it so easy to send a msssenger to the factory for necessary work or material. Midway between Boston and New York, it also lies still nearer the advantages of Providence, Bridgeport, and the Naugatuck valley. Being behind Long Island it is as safe from attack as any practical shore station could be. There is plenty of adjacent land for growth and land which is not valuable for other purposes.

I have not been in close touch with Mr. Brunton or Mr. Condict lately, and they may have much better plans than the above, but it is more important that we start helping something which can grow, than to wait for a perfect and mature plan. It is impossible to produce a complete Navy Laboratory at once, and exceedingly difficult to find men who combine the factors of Navy connections, interest in the work, youth, and energy, but I have also always held that the thing was very desirable (more so than most men realize), and that it could grow by a natural process, if decently encouraged. I think the start has been made, that it will continue to be well advanced under the present plan, and that we might be of great help by putting our shoulders to the already moving wheel.

I think we could carry all the desirable load of reoponsibility for failure of experiments, thus relieving the Navy men, and thus incorporating a factor whose value has been pointed out.

I can't help thinking that valuable time is passing and that we may be delaying a general Navy laboratory by not realizing and utilizing the conditions at New London.

Yours very truly,

WRW C

wouling

F . B . JEWETT

#### Western Electric Company. INCORPORATED

J. L. MCQUARRIE

E . B . CRAFT

E . M . COLPITTS W.F. HENDRY ENGINEERING DEPARTMENT 463 WEST STREET

NEW YORK

July 19, 1918. IN REPLY REPER TO EHC-GI

REPLYING TO

ER. W. H. MEADOWCROFT, c/o Thomas A. Edison, Inc., Lakeside Avenue, West Orange, New Jersey.

wy dear Er. Meadowcroft:

In accordance with your conversation with me this morning, I am sending by special messenger with this letter, two samples - one of bakelite carbon and the other of standard carbon. We do not know what use you desire to make of these samples, so cannot state whether they are likely to give very satisfactory results. I might point out in this connection microphone that the relative performance of oarbon differs with the structure employed, the electric circuit, the choice of voltages, current densities, otc. Further, we find that various varieties of carbon differ greatly with respect to life under conditions of use. I should be glad to hear from you whether you find these samples useful or not.

Yours truly,

F.B. Jewett

Chief Engineer.

Herewith-1 sample std. carbon; 1 sample bakelite carbon.

J. L. MCQUARRIE

W.F. HENDRY

Western Electric Company,

ENGINEERING DEPARTMENT 463 WEST STREET

NEW YORK

July 19, 1918.

IN REPLY REFER TO

REPLYING TO

MR. W. H. MEADOWCROFT.

T.A.Edicon Company, Inc.

Lakeeide Ave., West Orange, N.J.

Dear Sir:-

In accordance with our conversation this morning, we sent you by special meesenger, twelve 323 type transmitters without bells but equipped with mouthpieces. These were shipped on our shipping ticket X-686068. They are of the latest type which we are supplying for regular common battery service.

We understand that you will place an order covering these transmitters. If you will address this to me referring it to the attention of Mr. H.A.Frederick, it will simplify our handling of the matter.

Yours truly.

Chief Engineer.

United States of america Department of the Interior. Explosives License. june No. 100 53 48. Dete issued JUL 191918 This analysta lience is hereby greated to Thomas al. Edward to puchose and use explosives for experiente purposes. Valley Koad. (Ldduss , West Drange, Essex New Jersey. Under act of Congress Offend of the, 1817. Public No. 55, wood by Jonnie Not transpalle at - Frank

July 22,1918.

Dr. W. R. Whitney, e/e General Electric Co., Schonoctady, N.Y.

My doar thitney:

How Lendon is a far better place than either Washington or ammpelis. It has everything in its favor, except not being near liew York.

I have called Secretary Daniels attention on the Sound 114 carry very dependent on the Sound 114 carry, very chaep, and very deep water and he promised six models ago to or with mo to see it, but I thin: It has allipsed his wind.

I also strongly advised him to extend the low London Laboratory and do more research work there and stop manufacturing there. He made notes and those also have probably elipped his mind.

Today i have written him again reminding him of it.

Yours since ely,

My Dear Chiling

Meso fondow is a for better place them 27ther Ill askington for Innaporting the has everything in the favor, Except Not Europ Near Callot Elegy Danich attendent to a place within 40 minutes of Procoklyn Havy your outle sound, 114 avecs, Nery Chaop + very deep conter the promised to go coth me to see it.

hus in It is to strongly adores to Extend the many of the Extend the Mew fendow Late of the more susception with the many susception with the fendow the made notes the made in the fendow to day of have suched to day of have sorten the again secundary line.

July 22,1918

Hon. Josophus Daniols, The Socretary of the Havy, Washington, D.C.

My doar ir. Daniels:

Don't forget you promised that when you came to Eeu York you would go and see the proposed Laborator; property that is only one hour from Brooklyn Havy Yard.

Yours sincoroly,

, July 22, 1918

July 23,1918.

Excelsion Motor Mfg. & Supply Co., 37... Cortland Street, Chicago, Ill.

contlemen: Attention: It. 2. W. Hendel som:

we have been expecting to reactive the

blue prints of the motor and transmission you have

supplied us, but up to this time they have not

arrived. To an interpret need for them and

I would selt that you mindly when as soon as possible

addreading same in my sense.

Your & very truly.

Assistant to Mr. Edicon.

July 24,1918.

Millor Rubbor Co.,

Akron, Ohio.

#### Gentlomon:

In my experiments for the Government 1 am using a considerable number of the large red rubber sponges, which I believe are made by your concorn.

Martial in a different chape. All you to use the came material in a different chape. All you kindly let me know by return medl in what shape you can make this material. I would like to have it so that I could cut out shoots about eight inches wide, about 5/8 of an inch thick and as long as possible.

Will you ploase give me your full information on the subject. The material is to be used for submarine detection, and is wanted for the Government.

Yours very truly,

A/5511.

### [ATTACHMENT/ENCLOSURE]

write to Miller Kubber Co
tracy that we will
using a considerable amount
atthe brings such Fretter

Springer,
We recould lake to know
we what sharps you cren
make this materials

the wants to cut out
Sheets about 8 makes
wide about 5/8 (lich
ond as long as possible a

offers quis us face
information, it is to be

### [ATTACHMENT/ENCLOSURE]

and wanted by the

H. W. TITMAN, PRESIDENT
Main Officer PITTSTON, PA.

H. C. HOOVER, SECRETARY

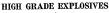
E. B. DRUMM, TREAS. & GEN. MGR.

sch Office: MAHANOY CITY, PA.



### BLACK DIAMOND POWDER CO.

R CO.



Mills at HAUCKS and SUSCON, PA.

Ship all goods for Haucks, Pa. to Black Diamood Powder Co. Siding for P. & R. R. R. delivery Ship all goods for Suscon, Pa. to Black Diamond Powder Co. Siding for N.Y.S. &W. R. R. delivery



An Independent Company in no way connected with a trust
BOTH PHONES
For prompt attention address reply to

Pittston, Pa., July 24/18.

Er. Wm. H. Headowcroft, Orange, H.J.

Dear Sir:

To had the matter up with the neitreed company, concerning shipped perdor mode with the ingredient sectioned by ir. Stienn, and they decided that apparently it would have somewhat the a me hazard as black produce, and we do not think that there outli be any difficulty in having them accopt it for shipment.

If you think that there will be more of these sampler. Address to the C hesical Labractory, Bureau or Explosives, South Amboy, N.J., as they wish to assert the rate of burning of the sixture.

They made inqui ries concerning proportions of ingredients, etc., but we thought perhaps it would het meet with your approval to mention it so we did not give them the information,

Of course if t here is not likely to be any use for the goods, it wil 1 not be necessary to send the one pound sample.

Thanking you f or your attention to the matter,

we remain

Re spectfully,

BLACK DIAHORD POWDER CO.,

5520

July 25,1918.

Hon. Josophus Daniels, The Secretary of the Havy, bushington, D.C.

My dear Er. Daniels:

In following up my experiments in locating the nesition of game by sound, I wish to send an observer down to sandy Hook, and have written to the Bureau of Ordnance, tar Department, for cornication.

In the conduct of these experiments, it may be destrained to use cover all boards one on the Her Jorsey shows a observation points. I believe those come under your jurisdiction, and, therefore, write to sak if you will issue a permit for my Abstruct and helpost to have account of the property of the p

Yours sincerely,

A/L014.

Buroau of Ordnance. War Department, bashington, D.C. 1. I am ongaged in making some experiments for the Secretary of the Havy, one of such experiments being in the line of locating the position of gune by sound. I undorstand that there is considerable gun firing down at Sandy Hook, and as this is within a reasonable convenient distance from my Laborator.
I would like to obtain permission to send one of my Assistants with apparatus and several helpero to Sandy Hook to make observations. My Assistant has already seen the Commanding Officer at Fort Hancock, and made explanations as to the apparatus and tho desired location, all of which was apparently satisfactory. 3. It would be necessary to have a Surveyor run base lines on the Hook at a short distance away from the main land. If permissible, this might be done by seneone from the New York office of the U. S. Coast and Goodotic Survey. 4. I, therefore, bog to ask that the Bureau will extend permission to me to send my Assistant and helpers extond pornission to me of sent my heart-sum interest (probably not mo.e than three) to go to the Sandy Hook locorvetion with my apparatus and make observations, also to make use of the Cotor as an observing point, and have been lines laid out by a surveyor. Respectfully yours.

Induan el

July 25,1918

# THE SECRETARY OF THE NAVY. WASHINGTON. July 26, 1918.

My dear Mr. Edison:

I have not forgotten my promise but the only time I have been in New York I left Washington at three o'clock in the afternoon and returned on the midnight train. The next time I come I will write you and I hope to be able to do so next month.

Always faithfully yours,

Mr. Thomas A. Edison, . Orango, How Jersey.

July 26,1918.

Mr. E. B. Brum, Managor, Black Diamond Powdor Co., Pittston, Pa.

Doar Sir:-

I have received your fever of the 24th instant, and have shown it to lin. Idison. He thinks very well of your suggration to send a pound comple of the special poster to the Chemical Laboratory, Bureau of Explosives, South amboy, H.J.

as soon as loar from you in rolly to the comple as soon as loar from you in rolly to this lotter. I do not foll quite our whether the Chemical Laboratory you refer to it commonted with one of the Ballroad Compenios, or whether it is a Government Laboratory. I will await your advice.

Mr. Edison ab glod that you did not give the formula, as he thinks it is just as well that this should be kept quiet for the present.

Yours very truly,

ssistant to ir. Edison.

1 10000

H. W. TITMAN, PRESIDENT

F D DDIMM. THEAR & GEN. MOR

Branch Office: MAHANOY CITY, PA.



## BLACK DIAMOND POWDER CO.

HIGH GRADE EXPLOSIVES

· Ponder Couper

Mills at HAUCKS and SUSCON, PA.

Main Office: 1, PTSTON, PA.

Ship all gaods for Haucks, Pa. ta Black Diamand Powder Co. Siding far P. & R. R. R. delivery Ship all gaods far Suscon, Pa. to Black Diamond Pawder Ca. Siding far N.Y. S. & W. R. R. delivery



An Independent Company in no way connected with a trust
BOTH PHONES
Far prompt attention address reply to

Pittston, Pa., July 27/18.

Mr. Wm. H. Meadowcroft, Orange, N.J.

Dear Sir:

Replying to yours of July 26th, would say, the Eureau for the safe transportation of explosives and other dangerous articles, is a bureau established by practically all the reil-read compandes in the United States, and the Interestate Commerce Commission usually follows their suggestions in making regulation for transporting explosives.

We judge that the Chemical Laboratory, Bureau of Explosives, at South Amboy, H.J. belongs to this same bureau, and we do not think that it is a government laboratory.

The regulations for copress shipments states that samples of explosives for laboratory extunation are not to exceed a net weight of hair pound for each sample. In the sample is to be placed in well secured setal cans or glass bottles, but more than one can or bottle can be placed in a wooden box.

We are enclosing the last letter from this Bureau of Explosives which will probably explain the whole matter.

Respectfully,

BLACK DIAMOND POWDER COMPANY.

El Glammu MGF

(5554)

July £8,1918.

Er. H. S. Firestone.

akron, Ohio.

My doar Mr. Firestone:

thin vulcanizing tape considerably thinnor than I can got anywhere around New York. I am enclosing, herewith, a sample of the thinnort I can find.

would you or can you make me a roll of vulcanizing tape that would be only 1/64 of an inch thick: The sample sent herewith is entirely too thick: I want it for nubmarine experimental work.

If you can make it, will you please do so at the carliest possible moment, and former it by Parcel Post, Special Delive.y, to my Assistant, In W. H. Redomeroft.

Please lot me hear from ; m as seen as possible.

Yours very truly.

A/5549.

Enclosure.

### [ATTACHMENT/ENCLOSURE]

Jonatone,

Jamin great need of some
Thin subcanging taps consciously
thinner than I can get one
where arrend Mfork
I send were thingst sample
I can find Would or can
you make me a roth of can
you make me a roth of can
toohich is only 64 th of can
wich thick the sample
out brockered is enlirely
too thick work

July 29,1910.

Warde Hatural Science Establishment.

Rochecto: , H.Y. \_

Gentlemen:

- Hr. Edison is desirons of obtaining a small quantity of stantium carbonness, native, froe from flams. He wishes to the cut a few cylinders 3/4 inch by one inch in longth for a special experiment he is making for the Government.

Can you supply some pieces, say, about half-pound altorother.

Yours very truly,

Assistant to Mr. Edison.

:/1446.

# THE MILLER RUBBER CO.

CABLE ADDRESS

ATCHEST ALL COMMUNICATIONS TO THE COMMAN, NOT TO INSMEALS. IN REPLY PLEASE REFER TO WSD: LP AKRON OHIOUSA. July 29, 1918. DRUGGISTS SUNDRIE

AKRON, OHIO,

Mr. Thomas A. Edison, Orange, N. J.

Dear Sir:-

AY OTHER CAUSES REYORS OUR CONTROL. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

In response to your request of

July 24th, we are today mailing of under separate over, by Parcel Post, opened to 14th of the separate over, by Parcel Post, opened to 14th of the season of Parts was 14th of the 14th of 14t

conducted considerable experimental work for the Govsymment in the development of this material, and have at the came time, acquired considerable information as to its adaptability for various purposes.

give you may information in our power as to this material if we had the noseement data to go on, as for the purpose for which it is to be used. Any of this material on be made in cheete 20 x 20, and of practically any thickness required up to 2-1/2 inches. Owing to its method of manufacture, there must also the content of the content

If this material is of sufficient importance, and you so desire, we would be very glad to have one of your sen come to the factory and go into the matter more fully, or the writer or one of our factory men, when



Mr. Thomas A. Edison - Page 2.

in New York, would be glad to come out to your factory and go into matters with you.

Please believe that we are only too glad to assist you in any way to carry your experiments to a successful conclusion.

To will look forward to hearing from you further on the subject at your early convenience, and beg to remain

Very truly yours,

THE MILLER RUBBER COMPANY

January By

July 30,1918.

Chomical Laboratory,
Buroau of Explosives,
South Amboy, H.J.

Gentlomon:

Colonel 3. .. Dunn of your Buroen has been in correspondence with the Black Biamond Porder Company, of fitteen, Pa., during the procest month, in regard to some special person rande by the process of the contract of the process of

by Exproce, two half-pound boace of the mixture referror to, for your excitation.

Yours vory truly,

Assistant to Mr. Edison.

i/5553.

Postal

Frem in

208.

## TELECRAM

tone

RECEIVER'S No. TIME FILED . CHECK

BELVIDERE BROOKS, VICE-PRESIDEN

SEND the following Telegram, subject to the term on back hereof, which are hereby agreed to July 30,1918.

mords

John Thomas, Supt., Firestone Tire & Rubb

Supt., Firestone Tire & Rubber Co., Akron, Ohio.

Sample of ordinary tire vulcandising repair stock. He wants this stock calendared one sixtyfourth or, less of an inch thick. Only requires four or five pounds from two to twelve inches wide. Please have it made at once and send Parcel Post as per his letter. You can no doubt make this on Leboratory odlender. Sample in Mr. Edison's letter is eatis factory except for thickness. Must be about one sixtyfourth.

CABLE ADDRESS

FOUNDED 1862 CORPORATED 1860

#### WARD'S NATURAL SCIENCE ESTABLISHMENT

84-102 COLLEGE AVENUE

FRANK A. WARD, PAGE. F. H. WARD GEGY, & THEAS. ROCHESTER, N. Y., U. S. A. July 30th, 1918.

Mr. Thomas A. Edison,

Orange, N. J.

Attention - Mr. Wm. H. Meadowcroft A/5546

Dear Sir:

In response to your favor of the 29th inst., we have run through our stock of Strontianite from Westphalta and California, and have selected four pieces which are as meanly free from flaws as anything we have. We are sending these to-day by Insured Parcel Post and enclose memorandum invoice. We hope that this material will prove satisfactory.

Assuring you of our desire to be of any service we can to you at any time, we remain

Very truly yours,

Ward's Natural Science Establishment.

per Sco-Loglish

GLE:L

A05 Fifth Avenue, New York City, July 30, 1918.

William H. Mordoweroft, Esq., c/o Thomas A. Efison, Esq., Oranje, New Jersoy.

Doar ir. Mendomoroft:

In response to your favor of the 26th instant, I am pleased to inform you that Mesors. Minor & Assud of Erd Avenue a 18th Street, New York City, will hold for you for a few days about five pounds of otrontianite. Will you kindly communicate with them direct?

The material you sent on the 24th is vanadunite vanidate of lead. The hamajons are unusually protty little eryotals.

Vory truly yours, Lenge F. Rung

Tirestone

FACTORY & GENERAL OFFICES
AKRON, ONIO

Akron, Ohio, July 31, 1918

Mr. Thomas A. Edison, The Edison Laboratories, Orange, M.J.

Dear Sir:-

Mr. H.S. Firestons wired us yesterday to ship you 5 lbs. repair stock two to ten inches wids and one-sixty-fourth in thickness. He stated that you had sent us a sample. Upon receipt of his telegram your sample hed not yet bean received so we forwarded you by Parcoll Post lact night 5 lbs. 106 rapir you calendered 1/64\* thick, 100 wide.

We received your sample this morning and are having same analyzed at the present moment. If we find that the sample which we sent you is vastly different from the sample you sent us we will duplicate your sample and send you an additional 5 lbs.

Trueting that you will receive the 5 lbe. eumple which we sent you leet night in proper order and due time and awaiting your further commande, we remain,

Yours very truly,

THE FIRESTONE TIRE & RUBBER CO.

JWT/357

eneral Superintendent

### [ATTACHMENT/ENCLOSURE]

Postal

Leto Herman, akron ?.

Repair stock received questerday.

Certainly fine quick coork and just what I wanted to your friestoness cooperation much appearated.

Those Operation much appearated.

Dr. George P. Munz, 405 Fifth avenue, New York; N.Y. bear Dr. Kunz:

Mr. Edicon wishes me to thank you voly much for your favor of the 30th instant, and for the information you have given him. At his request, I am writing to Measure. Eimer f. Amond about the ctrontienite.

Yours very truly;

Assistant to Mr. Erison.

July 31,1910.

Mimor & .mend, 3d ave. and 18th Street, New Mark, N.Y.

Gentlemen:

Dr. George F. Zunz of Miffany & Co., triton to that he has been in constituentian with you in repeat to come strontlandte, and steeps that you will hold for a for days about five pounds of this.

in. Editon whihe ue to sel whother this cuentisalite is measure. He desires to cut a small cylinder about an inch in longth for a special purpose, are requests no to act that you will kindly cond to bin a small place about an inch square or a viff o larger.

Yours very truly.

Assistant to Ar. Laison.

A/5564.

Naval Consulting Board and Related Wartime Research Papers Correspondence August 1918 DIVISION OF OPERATIONS
UNITED STATES SHIPPING BOARD EMERGENCY FLEET CORPORATION NEW YORK CITY.

August 1st, 1918.

Mr. W. H. Meadowcroft, Edison Company, Orange, N. J.

SUBJECT: Sea Anchor.

Dear Mr. Meadowcroft:

We have just received approval from Washington to use the Steamer CLIO for test of Mr. Edison's sea anchor.

This steamer sailed from Morfolk, 18/19/2 for Soston with a cargo of coal. Orders have been given for ship to report to us at New York on the next voyage for your test. We will get in touch with the steamer and give you reasonable notice, so that there will be no delay.

Respectfully yours,

Frank Yr. Sent -Assistant Managing Agent.

FH/V

Jehnely 3

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PRESIDENT.
WILLIAM L. SAUNDERS.
CHARMAN.
BENJAMIN B. THAYER.
THOMAS ROBINS.
EKCRETANY.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Aug. 1, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

With regard to the visit of the Board to Detroit on Friday and Saturday, August 9 and 10, I have received the following two telegrams from Mr. Coffin:

Arrangement made for rendezvous Detroit
Athletic Club as place for Board meeting and accomodations for all attending to stay over night Friday and
Saturday. "

"Will visit Packard, Ford, Lincoln, Fisher and General Motors plants, also Eagle Shipbuilding Plant, making two full days. Meeting may be held evening of first day. Automobiles will be provided until Friday evening."

It is believed that most of the members from New York will take the Wolverine, leaving Grand Central Terminal. New York, at 5 o'clook on Thursday afternoon, Aug. 8, and arriving in Detroit at 7.10 on Friday morning, Aug. 9.

I shall communicate any further particulars which I

receive.

Very truly yours,

Thomas Robins

per G.C.T.

aner beserse to marcus Hook Fe.

United States Navy Yard, NEW YORK, N. Y.

August 2, 1918.

My dear Mr. Edison:

We are trying to find some preparation which may be applied to canvas so that a large bag may be made to carry freel. oil. The bag will have the preparation of the state of t would be attacked by the oil and shellac would lack the flexibility required.

I am well and happy in being rushed with work and hope you are the same.

With regards and best wishes,

Very sincerely yours,

4813N

Mr. Thomas A. Edison, c/o Edison Laboratory,

Orange, N. J.

It bag is to held firet och hen I think that the cloth could be coated with Viscore which is not affected by rater or Oil - Will try of find and affect af juffer of Viscore Have 2000 ag

made up of Torportin doth huserdock.

Cloth I mean same or Coats are made
have being up afill with will—
The gilm of dimerco oil is not solvable
we oil or some felus are not
Even softened or processor by siel

 $\leq$ 

August 3,1918

My doar Admiral:

instant, and in roply as to what open rates of the 2d instant, and in roply as to what preparation may be used as that a large canvac beg will be able to carry fuel oil, let me any if the beg is to hold fuel oil than I thin that the ciefth could be coated with <u>Viscoso</u> which is not effected by water or oil.

I would suggest that a small test bag be made up of tarpunlin cloth, limsed oil cloth, I mean the success as costs are made. Then hang the bag up and fill with oil. The film of linsed oil is not solucible in oil and some films are not even-softened or Emelled by oil.

Viscose, I understand, is made by the American Viscose Company, Marcus Hook, Pa.

I am also well and happy and very busy on my experiments for the Government.

Sincerely ;ours,

Rear-admiral G.E.Burd, United States Bavy Yard Hew York, B.Y.

August 3,1918

ward's Hatural Science Establishment, 84 College avenue, hochouter, H.Y.

Gontlomen: Atton: Mr. Goo. L. English:

Your letter of the 30th ultime has been received, regarding the small place of strontianite which Er. Edison was desirous of securing.

The four pieces sent by you have only just come to hand this morning and are entirely satisfactory to Er-

Enclosed you will find our check Ho. U 7060 amounting to \$1.85, in partent for sens, per your bill, and I wish to thank you in Hr. Edison's bohalf for your prompt attention. Yours your truly.

Assistant to ilr. Edison.

August 3,1918.

The Hiller Rubber Co.,
Akron, Ohio.

Gontlomen: Atton; iir. W. S. Davison:

Allor me to acknowledge the receipt of your favor of the 57th ultimo, and to say that in the interior I have get in touch with your New York office and have found they had just what I wanted, and, accordingly, have taken care of my requirements for the present.

The furcal Post peckage has not yet come to hand.

If the samples which you have so kindly cont are in anyway
an improvement, I will immediately got in touch with your
How York office for further sumplies.

Let mo thank you for your prompt attention.
Yours very truly,

CLASSES OF
OOMESTIC, SERVICE
Telegram
Night Message
Day Letter
Night Letter

## WESTERN UNION

TELEPHONE FROM THE WESTERN UNION MAIN OFFICE

CABLEGRAMS

CLASSES OF
CALESERVICE
Full Rate
Half Rate Deferred
Cable Letter
Week End Letter

Dated

To 11 HY R 46 NUMLZEX

KEY WEST FLO AUG 5 1918

THOS A EDISON

WESTORANGE NJ

ADJURAL FLETCHER COLLABIDANT 1 TH NAVAL DISTRICT REFUSES TO DISART LEAVE TO P D PAYNE LEAVE NECESSARY FOR DELIVERY OF MACHINE PLEASE MIRE HIM TODAY TO GRANT LEAVE REQUESTED BY PAYNE LACHINE ROU READY FOR SHIPLIENT BY EXPLESS AS BOOK AS LEAVE IS GRANTED.

GERBODE AND PAYNE
KEW WEST FLO
820AM AUG 6

CubloAldress "Edisons New York"

Trom,theLaboratory Thomas A. Edison,

Crange, N.J. August 6,1918.

Hon. Josephus Daniels, The Secretary of the Mavy, Washington, D.C.

My dear Mr. Daniels:

I wrote you on Joly 25th stating that I had written to the Bureau of Ordinance, War Department, for permission to send down an observer to Sandy Hook in connection with my experiments in locating the position of guns by sound.

Extending to me and my assistants, the facilities of the Sandy hook Froving Orondes and I have sent my assistant down to make proliminary drangements. In tells me that there will be some slight expense to be taken care of and that lajor Kirk, Commanding Officer, asks that a small appropriation of about \$500 be made available for this work through the flavy Department, this appropriation to be used on authoritation of myself or assistant.

Will you /indly arrange for this so that there will be no delay due to possible lack of authority on Major Kirk's party

Yours sincerely,

Two. Edison said he would pay up to \$500. - Is bill him.

No. Jel. 9158 a. Z. 8/4/18 Key West PD Payne who been making genoscopic Lampo Telegho The wants leave to deliver Jamp a send by Experces Lex it so Law

#### A. S. Nabal Station, Key West, Flu.

IN REPLY REFER TO
No. 565-1918.
FAT/CAW.

August 6, 1918.

My dear Mr. Edison:

the gyroscopic lamp and have telegraphed you today that the box is being shipped but that Payme cannot be greated learned to specific that the gyroscopic action of the control of charges which are being investigated by the charge of all units these are acted upon Amirch Photcher cannot grant and units these are acted upon Amirch Photcher cannot grant

of this apparatus has been greatly delayed. I have made frequent inquiries, from time to time, regarding great the work and was several times informed to keep an electricity or by Gumer keeps, where the several times informed to keep an eye on the work, that he activity and requent short cruises of the vessel to work, the two sen are attached interfered largely with their work.

on Schurley however, in company with licententential them told me that Paymo was to be granted leave, identenant could not be to Orange and demonstrate the appearatus to you. Payme appeared very envious to make this trip and wanted to ship the box addressed to himself at Orange, but I saidy no, that the Supply Officer would attend to shipping it and that it should be addressed to you.

Today I roceived your telegram and, upon making investigations, learned the reason for Payme not being granted leave. I also found that when he heard he could not have a pay to the services office, haven he can be a pay of the Bill of Leding, and got the court min had been sent there yesterday, and took it gave no very definite roply ofher them to the been sent there yesterday, and took it gave no very definite roply other than the beat the faith had an interest in the apparatus and idd not want to ship it and have any one slee open the box. He also spoke of "compensation" and vaguely roferred to some agreement that he had make with the ship it that he want to shape a sent of the s

the present time, is stry that Feyne cannot go to Orange at you to have him demonstrate and operate the appearance. I told him, however, to write out and send you such description or such instructions regarding the appearance as he might think necessary.

Mra Edison - 2. No. 565-1918.

FAT/CAW.

I enclose herewith Bill of Lading covering the Ship ment. With kind regards, ewith Bir.

Respectfully yours,

-2-

Mr. Thomas A. Edison,

Orange, II. J.

### [ATTACHMENT/ENCLOSURE]

COVERNMENT BILL OF LADING.	EAVAH	STATION,	KRY WEST FLA AUG	5,1918, 191 (Date)
RIGINAL.	RECEIVED fro	m	SUPPLY-OFFICER	
v theAMERICAN RAILWAY EXPRESS CO.			CO	Company
e public property here	nafter described,	in apparent go	od order and condition (contents	and value unknown),
be forwarded subject t	conditions state	l on the roverse	hereof, fromKEYWEST-, F	A
VESTCRANGE,	I. J.	, by said c	ompany and connecting lines, there	to be delivered in like
ood order and condition	to THOS A .	EDISCH,c	/o EDISOH LABORATORIES.	Westorange,H
ia	(Bosta kurney and	v when same outstant!	I interest of the Oovernment is subserved the eby.)	
		NIMBER AND	CONTENTS.	Weights
Manes.	Numbers.	DESCRIPTION OF PACKAGES.	CONTENTS.	
•	H LABORATORI	l .	Delicate Instruments	174#
West C	RANGE, H.	-	To Value \$3000.00	
	SEE INS	TRUCTIONS	ON REVERSE HEREOF.	
TARIFF AUTHORITY. (To be filled in by General Office rendering occount.)			ALRER I CAN RA I LVIAY EYE	RESS_CO.
AUTHORITY FOR SHIPMENT.			Per GO Court	L asta sent.
	COM	SIGNEE'S CERT	FICATE OF DELIVERY.	201
			(Pires.)	(Date.)
I have this day reco	ived from		(Name of transportation company.)	the public
	is hill of Inding. it	apparent good	order and condition, except as not	on on the reverse nercol.
proporty described in th	m pin of manify is		lbs	(In figures.)

Consignce should pay no charges on this stripment.
 Charges to be billed against Bureau of Supplies and Accounts, Navy Department, on authorized Government voucher form, attaching this bill of Isding as a supporting paper.

CLASS OF SERVICE DESIRE Fast Day Message Day Letter Night Message

Feem 1217 Time Filed

Send the following telegram, subject to the term

3 NIGHT LETTER KEY WEST PLO AUG 6 1918

THOMAS A EDISON ORANGE N J

MAGNINE SHIPPED TOINY IT WOULD BE TO OUR MUTUAL ADVAPTAGE FOR PARTY TO DEMONSTRATE MAGNINE OUR COMMANDIM COPYCERS APPROVES FULCOUR ADMINAL PLESCHER DISAPPORTS ON ACCOUNT OF REMOVALING PROMISES FOR COMMANDS AND MAINSY US. WILL YOU REMAINS FULCOHOR TROUGH MAY IMPRIVIEWY FLEASE WIRE ANSWER TO US

EXTRACABLE TO A Alle y

PAYNE GERBODE

August 7,1918.

Thormoid Rubber Co.,

Frenton, H.J.

Gontlemon:

ic wish to inquire further regarding your universal joints.

For our purpose we will need a joint that can transmit.15 H.P. at 5000 HMH. Could you emply us with such a universal, nonliman diameter to be 4 inches. The chaft deficient will be very slight - not to exceed 5 degrees.

our initial order would be for two joints.
Yours very truly,
S. C. Wanner,
Research Engineer.

Aug. 7th, 18.

From: P.D.Payne and A.G.Gerbode. To : Thomas A. Edison. Subject: Gyrc running light stabilizer.

- The experimental machines which we have built for you was shipped yesterday by express by the commandant of the Meral Station. In our plans we had intended for one men to accompany this machine in order to demonstrate to you and to explain it but as he was not allowed to go we hereby explain to you improvements necessary as we have found them.
- 2. First a motor of better construction is necessary, this motor must have a shaft of ample size to cerry the Gyro wheels without a fitted a shaft of ample aims to cerry the Gyro wheels without fitted to the shaft in the same manner as your battery terminals are secured, that is on a taper, this will insure perfect allignment of wheels upon their removal and replacement. The wheels on being fitted by the shaft of the same perfect allignment of wheels upon their removal true should be balanced both stable least the same perfect allignment of which all the same perfect all great the same perfect of the metal. The mercury clinometer to the same provided for cuttingout the light when instrument leaves the horizontal will not function properly if the machine has excessive vibration.
- 2. This clinometer consists simply of a hemispherical out filled with meroury. There is a selectrical conmection in filled with the most with the moroury and another electrical momentum pladed in such a memore that the moroury will touch it when the contesions is tilted more than twenty minutes, this closes circuit for a relay which upon being energised opens the light circuit. This clinometers may be sentiated on any pert of the mechine carried by the inner gambal ring.
- 4. The leading wires for the motor, light and olinometer should be installed in a way to cause less friction, this may be easily accomplished by using rubling contacts at all simbal intersection s.
- The Gyrc elements should be slightly more penasicus butthe upper wheel must be kept above the axis of its gimbal.

6. We have found that a reflected/as preferable to a light from which you can see the lemp filement from the slots. To corron tamps which we installed should be repeated to the seed of t

- 7. The whole machine must be protected from the wind as a breeze would tend to energize the Gyrosope and throw it off its plane. This protection can be made of metal or wood with windows for the light.
- 6. In our tests we mounted the instrument in a row beat alongside the summarine and obtained our current from the summarine summarine instrument remaining level within a row minutes. Whill we also made a chop test by mounting the machine or our row hottle which allowed us to better one a semantant with a row test of the row o
- With this shop rolling device we made a demonstration to the Commendant of the Mayal Station and our Commending Officer. The instrument was satisfactory to them. We are inclosing a picture showing this chop test.

Respectfully submitted,

A. G. Ger bock

August the 7th, 1918.

Mr. Thos. A. Eddson; Edison Laboratories, West Orange, New Jersey,

Dear Sir:

The dalay is has to the fact that the importance of the experiment was and shown due appreciation in this year and the state of the experiment of the state of th

Commandant Traut has notiber opposed or assisted us and has visited us without his visited with the lest time his visited was relied in the experiment, the lest time his visited was very the purpose of reprimending us for this mention we were not to bless. Since we have completed this mention Mr. Traut asked us for an explantance of the second this sweet was the second this was the second that the second the second

There is still a sum due us for this work on the original agreement made by you at the beginning of the work and we hope you will appreciate the amount of the the work we have put on this in addition and the property of the summarine. There is also a sum of (\$60) thatly six dollers for twelve ball bearings (\$5) five dollars for smarings the country on (\$9) hims dollars for smarines making a total or (\$50.00) fifty dollars.

At the time of taking this job we were carrying on important experiments of our own which we laid aside in order to devote out whole spare time on your devices.

We rely upon your generative and appreciation of this work to help us make a start with our experiments as we learned that Markov that you had a desire to help us, therefore any daition that you might make to this original man help us immessurably and would probably appear very small to you.

Awaiting an early reply from you we remain

Respectfully yours

IR. Saque,

address is

4. C. Box 283

Keymest, Tia

August 9,1918.

Messre. Payno and Gerbode, U. S. Havel Station, Now Wont, Fla.

Contlemen:

I did not ensure your tologram as I heard they would not give you loave until the Monolulu affair inventiration was finished. However, I hope the apparatus will work then we test it on the Sachem and that you will get the money.

Your very truly;

Paynet Mabode

Mechanics

IS havy yard Keywart I det not answer your lelegram as I heard they would be a for your teached not give your thank to more thank to work when we that to on Duchen a that you release of the money - chem

August 12,1918.

Hon. Josephus Daniels, The Secretary of the Mavy. Sashington, D.C.

My donr Cr. Daniels:

Mr. Hanford comes to Doe you

on my bohalf, about something which may prove important in preventing collision in conveys, etc.

Yours sincerely,

Me Hanton comes Co De you about somethy which may perave ) me comming ( allesian we Convey & Ele -

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

BENJAMIN B THAYER.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Aug. 12, 1918.

To the members of the Naval Consulting Board: Dear Sirs:

. It has been suggested that the Board hold its next meeting at the Hotel Belvidere, Baltimore, Md., on the evening of Friday, August 23rd, and spend the next day at the Ordnance Proving Ground at Aberdeen, Md., in order to witness the tests of artillery and ammunition. This plan has not yet been decided upon, it being simply the purpose of this notice to ascertain the views of our members on the subject, and I ask you to sign and return ours very truly,

Thomas Tolins

perf. J. the enclosed blank without delay.

TR/gt

I in favor of holding the next meeting am not in Baltimore on Friday, August 23rd, and spending

the next day at Aberdeen, Md.

Think all should go I how so beauthers - Edward

# W. J. PHIPP, VICE-PRESIDENT. BUREAU OF EXPLOSIVES



REPORT FROM CHEMICAL LABORATORY

25-16-189 17-1335

S. P. PAIGRANCE, RECEIVED AND TREASU

SOUTH AMBOY, N. J., Aug. 13, 191

#### Slow Burning Powder.

A nample of slow burning powder mode by the Black Diamond Powder Company was sent to tell laboratory by the Thomas A. Edicon Laboratory.

This powder had much the same appearance as ordinary block blacking powder and was grafithed on outside. The granulation was course the grains being approximately  $1/6 \times 3/16$  inch in diameter. The powder was analysed with the following results:

Moisture Sodium Carbonate Potassium Mitrate Chargoal

This powder when ignited burnes rapidly nd with deflogration, the combustion is elightly slower than that of black bleating powder of similar grapulation. It om be ignited by the ordinary scfety fuse.

Owing to the similarity in composition of material with black powder, and as the beautes of isualling are of the same nature but of somewhat lose depres it is recommended that this atomial be shipped under the ...me conditions as black powder, and under the name of black powder as a low explaint.

Charles P. Boistle.

Chief Chomist.

COPY

41.2-10-G.

U.S.S. K-3, 14 August, 1918.

From: To:

Commanding Officer, Paul D. Payne, OE(G), US.Navy.

Subject: Travel Orders.

1. In accordance with the following resistors are very very little proceed this date to New york disk, and support to Two sightly Broadway, N.Y. and will further report to your Thomas A Edison at Courge, N.Y. Hoon complation of your temporary duty you will reburn to your present section Heaville Set tion, Key Ente, Plondén.

"Suspend that part of the Bareau's letter of August 8th directing saiding of recommendation for trial by General Court Martial of Paul Donald Payne Chief Electrician General attached to Pall Donald Payme Order Electricists Constant of the Const

Report action. 16013 "Bunav.

2. Your necessary transportation and subsistence are furnished you herewith to New York and return.

/s/ E. H. Quinlan.

TER:D:Jo. 17 August 1919. 3-D-529. 1st Endorsement.

Commandant, Third Haval District. Paul D. Payne, GE(G), U.S. Navy. Fron: To:

Reported. . 1.

Proceed as directed. s.

Naval Station Key West, Florida. CF SF(R)2 SF(E)

CRITATION PIACCTION

Jkt

Payne got here 11:15 a.m. /19/18 Haa.

Tayne arrives beon Courtable hew he is see a a make what douce

August 15,1918.

Hon. Hewton D. Baker.
The Secretary of war,
hashington, D.C.

Doar Mr. Baker:

As mustard and other gases settle down in tranches, woods and low places, I suggest firing Cloum shalls into those areas to act on gac, which it certainly will do, sulphonate them and render then harmless.

I now have perfected a 3" gun shell using regular 3" projectiles, carrying Oleum 60, which, on explosion, given a dense fog covering an area of 75 feet.

Yours sincerely,

gaves selle Locon ouggest if will do sulphonale

Proving H.

August 16.1918

Commanding Officer, Proving Grounds, Sandy Hook, H.J.

My doar Sir:-

This will introduce ir. Henry G. Lelfe, one of my Laboratory experimenters. He cante to have you fire two or more emake bombs from a three-inch gun. I hope you will be able to do so.

Yours very truly,

Major Kirk,

This will we not ce ac Mr - Wolfe oue of my Exchange of the way to have you for two or more our of combs from a 3 mali gun will be able to do so -

#### LIGHTING DEPARTMENT

CITY OF SEATTLE

J. D. ROSS, FEL, AM, INST. ELEC. ENG'S.

SUPERINTENDENT

MEMBER BOARD OF PUBLIC WORKS

reck amy att that so las all Exam. T. August 15, 1918.

have deviced & the Court acud his little rose to two

Mr. Thomas A. Edison. Orange, New Jersey.

Dear Mr. Edison:

Experts who have done a let I am sending you a copy of a letter which

is the result of some work that I have done on the detection 10% have now detration which of the submerine.

hear duto grad unito while

You and Br. Hutchison were very kind to me le graft to Thick I get transfer when I visited you about eight years ago, and I would very the Collect transfer to the control of the collection of much apprediate your comments on my work. I have 55,000 outtomers here to take care of and have had to furnish currint for the turning out of about 400,000 tons of shipping, the other I have not put a great deal of time on these investigations, but I am ready to give lany part of my time.

It seems to me that a detector along these possibly all of it, or co-operate in any way.

lines should be possible, where the mass of steel to be detected is over two hundred feet long, at a distance of 2000 The use of small wooden boats/with a feet, or even less. proper detector would make a patrol very effective and inexpensive and also keep the subs from getting away from their

Yours very truly.

#### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDIBON.
PRESIDENT,
PRESIDENT,
WILLIAM L. SAUNDERS,
CHAIRMAR.
BENJAMIN B. THAYER,
VICE CHAIRM.
THOMAS ROBINS,
RECRETARY.

OFFICE OF THE SECRETARY

13 PARK ROW, NEW YORK

August 15, 1918.

To the members of the Naval Consulting Board:

The Chairman has decided that, as the Board has not held a meeting in Washington for some time and as there will be more to see at Aberdeen later on in the season, the next meeting of the Board will be held at the Carnegie Institution, Washington, on August 24 at 10 A. M., as usual.

Very truly yours,

THOMAS ROBINS,

Seore ary,

Per 85

August 17,1918.

Hon. Howton D. Baker, Secretary of Mar, Machington, D. C.

Doar Mr. Socretary:

Allow me to hand you herewith our Laboratory bill for exposimental done by ir. Esicon covering a period, June 17th, 1918, to July Slat, 1918, at cost, amounting to \$3,685.60.

This bill is sont in duplicate, contified to by Mr. Edison.

When the check is roudy, you can forward it to me as usual.

Yours vor; truly,

Assistant to Er. Edison

Enclosuro.

August 17,1918

Mr. Thomas Robins, Socretary, Mayal Consulting Board, Now York, N.7.

My doar Mr. Robins:

Nour letter of the 12th inctent has been shown to Dr. Edison, rearding the next Mooting of the Board at Beltimore, Na., spending the next day at the Proving Grounde, Aboadeen, MA.

Mr. Edicon mayo he thinks all the Members should go, and that he has been there several time.

Your notice for the next meeting of the heard at Washington has come in this morning o mail, so we understand just where the next meeting will be - discording the Baltimore notice.

Yours vory truly,

Assistant to Mr. Edison.

August 17,1918.

Rear-Admiral W. Strother Smith, U. S. H., Havy Dopartment, Washington, D. C.

My dear adminul:

allow me to hand you herewith

our Laboratory bill for experimental work done by Mr. Edison covering a period, June 17th, 1918,

to July 31st, 1918, at cost, amounting to \$10,196.96.

This bill is sont in duplicate, cortified

to by Hr. Edicon,

when the chock is ready, you can forward

it to mo as acual.

Yours very truly,

sectationt to Dr. Edison.

David commo

WHHJr/plt

COMMANDING OFFICER. SANDY HODKING Sandy Hereb HIGHLANDS, N.J. OK PROVING GROUND FORT HANGOCK, N.J. RAILBOAD STATION \*PLANNING LIVERON\* HIGHLANDS, N.J., SANDY HOOK PROVING GROUND

August 22,1918.

IN REPLYING REFER TO NO. 400.111

Thomas A. Mison Company. Orange, How Jersey.

3ir:

ON CENTRAL BASILE OF NEW JERSEY

1. We have received a letter from ingineering Division, Ordnamec Office (reference 29 400.111/558, Milson, Thomas A.) advising the tyou have been granted sermission to conduct certain experiments at this establishment.

2. It is resucsted that you reply to this letter siving this establishment authority to do work as directed by the responsible individuals of the party conducting these experiments and bill you for the came.

Very truly,

William A. Phillips, Colonel Ordnance Pept., U.S.A.

Commanding.

h.Horton, Jr. Capt. ord. Dept., U.S.A. Officer in Charge of

Plenning Division.

# NAVAL CONSULTING, BOARD

OF THE UNITED STATES

WILLIAM L. SAUNDERS.
SHARMAN,
BENJANIN B. THAYER,
THOMAS ROBINS.

OFFICE OF THE SECRETARY
13 PARK ROW, NEW YORK

Aug. 22, 1918.

To the Members of the Maval Consulting Board :

Dea r Sirs:

I enclose herewith lists as of August 15th giving the names, addresses, telephone numbers, etc., of the members and others connected with the Board; also list of the permanent technical committees and of such special committees as are at the present time active.

These lists are for the information of members and are not intended for general distribution.

If any errors or omissions are noted, please notify the writer and correction will be made in the next list. Kindly destroy all previous lists.

Respectfully,

G. C. Trefry, Jr.

Ass't. to Secretary.

GT Enos.

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NAVAL CONSULTING BOARD Aug. 15, IIDENT, Thomas A. Edison; CHAIRMAN, W. L. Saunders; VICE-CHAIRMAN, B. B. Thayer; SECRETARY, Thomas Robins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aug. 15, 1918.
VIGE-CHAIRMAN, R. B. Thayer; SECRETARY, Thomas Roblins,
ADDICKS, LAWRENCE, 6 CAUCHO SECRETARY, Thomas Roblins,
The Wolcott, 4 Weet 31 St., N.Y.G. 157, The Wolcott, 4 Weet 31 St., N.Y., Weekington, D.O., 105 South Losaile St., Chicago, Tany Park, Yonkers, N.Y., Tel. Yonkers 5436.
BANKERAMIN, DR. 1618 - 17 St., N.W., Washington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Tel. Main 2790, Branch 147; Res. Hotel Grafton, Weehington, D.O., Weehington, D.O., Tel. Main 279, Branch 147; Res. N.W., Washington, D.O., U.S. Shipping Board, 1217 F St. N.W., Washington, D.O., U.S. Shipping Board, Plant Hider, New London, Cortland 4569; Res. Horningside 4960.
HUTGHISON, RR. M. R., Llewellyn Park, N.J., Tel. Orange Allo
         London 1321; 55 Liberty St., N.Y.City, Tal. Cortland 456); Ree. Bordsaux Apte, 548 Riversido Drive, N.Y.City, Tal. Morningside 4660.
HTGHISON, R. M. R., Lewellyn Park, N.J., Tal. Crange 4710.
LAMEZ, B. G., Westinghouse Ele. & Ed. Co., E. Pittsburgh, Pes., Res. 250 Rev. 250
                              OOXHEAD, RALPH C., Lieut. O.R.C., Information Sec., Gen. Administration Eureau. Ordnance Dept., G & B Ste., Washington, D.C.,
                                                                        Tel. Main 2570, Branch 945.
                              WESTERN REPRESENTATIVE
BABCOCK, A. H., 65 Market St., San Francisco, Cal.
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Aug. 15, 1918.

# PERMANENT COMMITTEES OF THE NAVAL CONSULTING BOARD

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ARRONAUTICS, INCLUDING AERO MOTORS: Sperry, Chairman; Arnold Bankoland, Offfin, Riker, Sellers, Webstor.

ADS TO MATCATION: Sperry, Chairman; Carvin, Hunt, Woodwan, Albar on MATCATTON: Sperry, Chairman; Addicks, Backoland, Richards, Sellers, Webstor, Woodmark.
                                                                                                        Sperry, Chairman; Arnold,
                                                                                                                                                  Woodward.
  EULIUS, NUDSER, NOOMBALU,
ELECTRICTY: Sprague, Ondirman; Addicks, Emmet, Lamme, Webster,
FOOD AND SAUTATION: Boakeland, Chairman; Maxim, Thayer, Whitney,
FUEL AND FUEL HANDLING: Miller, Chairman; Addicks, Backeland,
Hurt, Nutchison, Maxim, Richards, Robins, Thayer, Webster,
            Whitney.
                                                                                  Riker, Chairman; Coffin, Sellers,
  INTERNAL COMBUSTION MOTORS:
                                                                        Miller, Chairman; Hutchison, Maxim,
  LIFE SAVING APPLIANCES:
                                         Richards, Chairman; Addicks, Lamme, Thayer, Whitney.
NDOES: Sperry, Chairman; Backeland, Hutchison,
      ETALLURGY:
   MINES AND TORPEDOES:
  OF MEXICAL SET Backeland, Chairman; Richards, Webster, Whitney.
ORDWANCE AND EXPLOSITUES: Maxim, Chairman; Backeland, fhurt,
Thichlong, Sprages, Theyer, Webster, Whitney, Moodward.
Webster, Chairman; Addioks, Backeland, Richards,
Williams, Webster, Chairman; Addioks, Backeland, Richards,
  PHISICS: Webser, Com reman; Audioks, Bedrein, Aldickes, Sellers, Whitney, Woodward.

PRODUCTION, ORGANIZATION, MANUFACTURE AND STANDARDIZATION:
COffin, Chairman; Addioks, Emmet, Lamme, Robins, Saunders,
             Thayer.
                                                                                          Thayer, Chairman; Addioks,
  PUH.IC WORKS, YARDS AND DOCKS: Toraven, Hunt, Miller, Richards.
                                                           Sprague, Chairman; Hunt, Hutchison, Miller,
   SHIP CONSTRUCTION:
  Richards Lamme, Chairman; Addicks, Hunt, Hutchison, SPECIAL PRODERMS: Lamme, Chairman; Addicks, Hunt, Hutchison, SOLIORS SPERY, Sprague, Webster; Whitney: STEAM ENGINEERING AND SILE PROPULSION: Hunt, Chairman; Emmet, STEAM ENGINEERING SEllers. Runt, Hutchison, Saunders, Sprague. STEMBERUSE; Emmet, Chairman; Munt, Hutchison, Saunders, Sprague. FREESPORTSTON: Riker, Chairman; Coffin, Craven, Miller, Robins, Saunders, Enguer.
   SUBMARINES: Emmet, Chairms
TRANSPORTATION: Riker, Che
Saunders, Thayer.
WIRELESS AND COMMUNICATIONS:
                                                                                      Webster, Chairman; Whitney.
```

#### STANDING OR ACTIVE SPECIAL COMMITTEES

LABORATORY: Edison, Chairman; Addioka, Backeland, Brunton, Hunt, Mohins, Sperry, Sprague, Whitney, Woodward Spray, Spray, Chairman; Lamme, NOMINATIONS FOR MAYAL COMMISSIONS: Theyer, Chairman; Lamme,
Sprague Robins, Chairman; Coffin, Sprague Robins, Chairman; Hutchison, STUDY OF ANTHRACITE COAL BURNING: Hunt, Chairman; Hutchison,
MILIOF, SAUMOFES STUDY OF PROVIDING FOR AMMONIUM HITRATE SUPPLY: Backeland. BEVELOPHENT OF RUGGLES OFILEWRATOR: ROLLING MILITORIST OF THE TOTALE UP WITH MAY DEPARTMENT FOR COLITIONS UNMARKING HE BOARD
TO TAKE UP WITH NAVY DEPARTMENT PROPOSITIONS GRAND WHICH THE BOARD BY THE BOARD AND UNFAVORABLY CONSIDERED AND WHICH THE BOARD

DESIRES RE-OPENED: Woodward, Chairman; Robing, Thayer.

Sandy

August 23,1018.

Commanding Officer, Sandy Hook Proving Grounds, Sandy Hook, N.J.

Doar Sir: Attention Lajor Kirk;

The Chief of Ordnance, as you know, has taken pleasure in extending to me and my assistants, the facilities of the Sandy Hook Proving Grounds.

the mentature, it. s. H. Hielland, tells so that there will have to be some alight expense entailed down at your grounds before he can proceed and I am just writing to confirm his convessation to you that it will be perfectly all right to bill me with any charges onculing theoretica, propoly a proved by my representative.

Thanking ; ou for your courteous cooperation, I

Yours very truly,

εum

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON, PERSISTAT, WILLIAM L. SAUNOERS, CHARMAN, BENJAMIN B. THAYER, THOMAS ROBINS, BECREFART,

OFFICE OF THE SECRETARY 13 PARK ROW. NEW YORK

Au gust 30, 1918.

To the members of the Maval Consulting Board:

Dear Sirs:

As proposed at the last meeting, the next meeting of the Board will be held at the works of the Locomobile Co. of America, at Bridgeport, Conn., on Saturday September 7th.

On the arrival at Bridgeport at 10.01 of the train which leaves New York at 8.31 A.M., our members will visit the works of the Remington Arms Union Metallio Cartridge Co. and the Lake Torped Boat Co. After luncheon they will inspect the works of the Locomobile Co., including some special Government work of an interesting nature.

Will you kindly advise me, using the enclosed form, as to whether or not you will be able to attend the meeting.

Yours very truly, Thomas Robins,

Secretary.

TR/gt Eno.

I expect to attend the meeting of th

Naval Consulting Board to be held at Bridgeport, Conn., on

Saturday, September 7, 1918.

Thosa Edwon

Naval Consulting Board and Related Wartime Research Papers Correspondence September 1918

Mr. F. L. Patterson, Edison Lamp Works, Harrison, H.J.

Doar Ar. Patterson:

I have just returned from a vacation this reprinting and find your favor of the loth ablims, with one of the first and the state of the loth ablims and the lift. Me foon has also returned today from a short vacation and I have hended him this material.

Hr. Edison wishes me to extend his thanks to Hr. Howell and yourself for the kind attention you have given in result to combonizing this and the previous bettle of material.

Yours vory truly,

Assistant o Pr. Edison.

Sept. 5,1918.

Hr. A. H. Hunt, 55 Liberty Street, Now York, H.Y.

Dear Hr. Hunt:

In pursuance of the Rétion's instructions, I am nording you, horowith, copies of two letters which he has written to the Secretary of the Easy under date of September 4th; also blue print of the table of curves referred to in the report of Litet t. S. Rairis.

If . Edison thinks that you will be interested in these papers, especially as you were of assistance to it. Edison in connection with obtaining a cargo boat for the test reported.

Yours very truly,

Assistant to Mr. Edison.

ь/5635.

Enclosuros.

Sept. 6:1918.

From: Thomas A. Edison, range, N.J.

To: Rear-Admiral Fletcher, Commandant, 7th Neval District, Key West, Fla.

Subject: Subsistence - .sul D. Payne, C.E.(Gener 1) U.S.S.K-3.

1. In accordance with a request which I made to the ceretary of the Navy .nal D. reyne C.E. [General], attached to U.S.S. K.-5 was sent to Oranne on detached duty, to complete an experiment upon which he was working with me when I was at Kay Weet a few monthe ago.

2. His transportation and subsistence to New York and return were furnished, but he was not furnished with subsistence while on detached duty.

- 3. Anyma has stated to me that he is without money to pay his bourd and usual expenses while here, and states that he has written to his Commanding Officer to firmerd other for present subsistence, but at the that it has not yet been received by him. I have advanced Jayne a moderate amount of money to help him out, on the understunding that it was an advance against the money for subsistence which he says he expect to receive through his Commanding Officer.
- 4. When the check is sent to him, I would suggest that be aidreesed to him on e. of the idison Isboratory, Orange, H.J., and then my Cashier can the sters that I shall be reimbursed by Payne for the money advanced him
- 5. For your information, I would ald that rayne is not required to spend any money whatever for the expenses of the experiment I cm making. That is all taken or re of in my aboratory acounts.

Yours very truly,

5/3k × 3/16 × 16' M Edison Hanley has gow to Sacheni - 1 They are going out o tests tomore on Sachen for tests tomorrow morning, early - Wants to Know whether You will go to the Sachen tonight and go out with Meadowark Sep. 1 9/18

September 10,

Black Diamond Powder Company, Pittston, Pa.

Gentlemen:-

We send samples of the special power to the Bureau of Explosives and have received from them a letter and a report, copies of which are sent to you herewith. Yours very traly,

Assistant to it. Edison.

Enclosure....

" .. Supt 17 17 6

Mr. Edison I consulted some miles about touter in who have have Mouning in That Mis fall that the turbine gets up to Speed so nearly instantineous that it is proctically ing inc it require Some men who loved the torpeder into the tuber argust their hiring langarde to refere the starting lucer when the torpedo is half way out of the tube while others shorten the langard down leaving as little as 3 in. stack. In Househole the torpido man built a Cage on hox from which to fire a torpedo for text runs. Shey claced the try who in this cage and lowered it into the water from the clock then fired it by tripping the Starting liver no Compressed air was used for bannching it

from the box. The toys comsimily left the bot on its own power and I was told by a man who hilped to make the tien that as far as he could have go with his eye the to the to had attained full speed by the time alcohol for survey sting the ite is fired simulaneously with the opening of the starting bance though Tilley Comme that the only increase in Speed ofter toppedo is clear of tube is that caused by the puchausism getting warmed up but this is not appreciable

Jayne

September 12, 1918.

Non. Josephus Daniels, Secretary of the Havy, Washington, D. C.

My dear ir. Daniels:-

The Sachem is now in dry dock for a week to make repairs.

Could you not exchange her for a similar boat of about the same length but capable of a higher speed?

In case of emergency the boat could be taken away any moment. We experiment off the coast of New Jersey.

Sincerely yours.

Josephen Daniels

The Sachem is now in

Dry de ek for a week.

Could you net exchenge hor

for a senislan boat further about texpable of a higher about

Camera turn perfect be to termine

device and transport to to to to the

Camera turn perfect be to termine

a of form to transport to to to to to to to

Lance to the present the boat

Can be to term to taway any

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the jersey Count Excess

PLEASE HEFER TO FILE

ACCRESS ALL COMMUNICATIONS TO UNITED STATES SHIPPING BOARD WASHINGTON, D. C.

# UNITED STATES SHIPPING BOARD WASHINGTON

September 12, 1918.

Mr. Thomas A. Edison, President, Naval Consulting Board, 13 Park Row, New York City.

Dear Sir:

The Ship Protection Committee has reviewed copies of your correspondence with the Secretary of the Mary, of September 4th, which were referred to us by Mr. A. H. Hunt, one of the meabers of this Committee.

These matters are of great interest to the Committee and Mr. A. J. Dason and Bear Admirel A. R. Couden, U.S.N. (Retired) have been selected to confer with you on these subjects, after which the Committee will be more able to assist in their adoption by the Shipping Board.

Very truly yours, SHIP PROTECTION COMMITTEE

> n A. Donald CHAIRMAN.

nou

THE SORV VOICE RELIEFS SQUARANY, 184700 Parks assuring form and the New Yorks.

now york

Rrs 1918. W!

Mr. Thomas A. Edison, Orange, H. J.

Deul This to Reas

Attention of Hr. Jm. H. Headowcroft.

Dear Sir:

In accordance with your request, I have examined circfully the schemes for detecting submarines as suggested by Mr. J. D. Roce. The underlying principle of all of these suggestions is the propagation thru space of an electro-magnetic field. The weekness of any device based on this principle is that the strongth of such an electro-magnetic field decreases very, very greatly with distance from the source of the field. Furthermore, elight changes in a magnetic field at a distance from its source will not be detected by any exploring coil placed close to that source.

all three of these suggestions are exactly the sime insofar as their electrical principles are concerned as the work which Mr. Stein and myself curried out at the time we were in Orenge. These proposed methods, except the first one, are novel to me in the mechanical means employed. However, as above stated, the basic principle has been found to be berren of results for the purpose desired.

I am returning the papers herewith.

Yours very truly, McNalker.

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
FRESIDENT.
WILLIAM L. SAUNDERS.
GRASHMAN.
BENJAMIN B. THAYER,
VICE CHARMA
THOMAS ROBINS.
ECONTANY.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Sept. 16, 1918

To the members of the Naval Consulting Board: Dear Sirs:

The next meeting of the Board will be held on Saturday next, Sept. 21, 1918, in the office of the Naval Consulting Board, adjoining the office of Rear Admiral W. Strother Smith in the new building of the Navy Department, Washington, D.C.

The preliminary meeting begins as usual at nine o'clock and the formal meeting at ten.

Very truly yours,

· Thomas Robins

per G.T.

# NAVAL CONSULTING BOARD OF THE UNITED STATES

THOMAS A. EDISON.
PAREIDENT.
WILLIAM L. SAUNDERS.
CHAIRMAN.
BENJAMIN B. THAYER.
THOMAS ROBINS.

OPPICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Sept. 17, 1918.

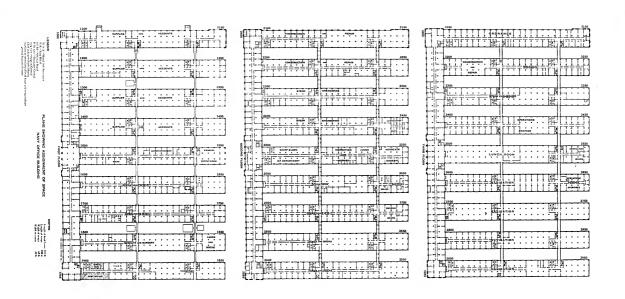
To the Members of the Naval Consulting Board: Dear Sirs:

I enclose herewith Plan Showing Assignment of Space in Navy Office Building. The new offices of the Beard, at which as per previous notice our next meeting will be held on SAM Saturday next, Spt. 21, may be seen at the extreme top center of the plan; Room 3550 on the third floor.

Very truly yours,

Thomas Robins

per G. T.



- New January State of the stat W. H. Meadowerof Edicon Laboratory, Orange, New Jereey. Thanke for your letter of the nine-Villag after the chirecut of the Footently made a vielt to Dear Mr. Meadowcroft; teenth, and for looking after the shipment of the Foot Candle Meter. I recently made a visit to the Electrical Testing Laboratories in New York, and had Mr. Little make some measurements on candle power of "flares", and he suggested that I'get one of these small instruments to make preliminary tesse. You may bill the instrument to me personally. Certainly, you may count on me to be in on ewelling the quota of the laboratory for the Fourth Liberty Loan! There is a possibility that I may have to take a Commission in the Army or Eavy very soon. This laboratory hae just been made a Unit of the American University Experiment Station of the War Department, Research Division, and I have been designated to act as Chief of

> Sincerely yours, and also Youre for the Fourth Liberty Loan,

OK.

wirin

the Unit.

Jonee Point New York September twentieth 1 9 1 8

Dept. 21,1918.

General Electric Co., 120 Broadway, Now York, h.Y.

Contlomen: Attention .r. D. H. Astabrook;

heferring to my telephone conversation with your ar actabrook this day, I wish to sak if you would make an immediate subject to go foot candle later to air Bruce a. Miror, c/o kickmond Levering, inc., Jones Point, art, and charge the instrument to that

in. Silve is doing some confidential executmental work for the Department of shatte, and he is perfectly good for the cost of this instrument. He may on in. Addends coperimental staff nearly all of lact year, but at the request of the Detertment of Justice he was detailed to do this experimental work.

Trueing you will give this matter your immediate attention, I romain,

Yours vory truly, and also Yours for the Fourth Liberty boun,

Assistant to Er. Edison.

A/5718.

Sept. £2,1918.

Hon. Josephus Daniele, The Secretary of the Havy, washington, D. C.

My dear Mr. Daniels:

Louid it not be well to provide me with a general pass that would give me admission to any of the Heny Yards: I have no pass, even for the Brooklyn Havy Yard, and I might find it desirable to visit any one of the Yards in the course of my experiments.

Yours sincerely, and also Yours for the Fourth Liberty Loan,

A/6721.

Sept. 23,1918.

Hon. Benedict Crowoll, Acting Secretary of war, washington, D. C.

My doar Mr. Crowoll:

in the very mear future, with two assistants, for the purpose of totting out some 3" mands benke that I have been developing, and shallow benke that I have been developing, and shallow experimental department there is not afford as the necessary fucilities to shoot those beaks over the waters of the layer.

It will also be necessary for me to have a pass for myself and my two assistants. Will you kindly furnish mo with such a pass or passos as may be necessary.

Yours very truly, and also Yours for the Fourth Liberty Lean.

A/8720.

Chifor a cass for self and two axed with a charactery with a control of several 3" smake bombs what work the water of the waters at the water of the water at the water of the

Sept. 24,1918.

Mr. J. D. Roce, Supt. of Lighting, City of Seattle, Wash.

Dear Sir:-

August 11th, and its enclosures, I submitted the affects of the first submitted the affects of the first submitted the affects on the deceding of a submarine by clocator-augustic means. These experts spont a very compide

I also return your papers and photostate herewith.

Yours very truly, and also Yours for the 4th Liberty Loan,

../5735.

Enclosures.

Sopt. 24,1918.

Mr. Bruco R. Silvor, Jones Point, M.Y.

Dear Er. Silver:

I took care of your requirements in regard to the Foot Candle Mater immediately on receipt of your last letter, and trust that it will reach you promptly.

mind the fact that you are being carried on his payroll the fact that you are being carried on his payroll y load, and the fact that you are being carried on his payroll y load, and the fact and the fact that the
smouth of Hr. Edison's expenses which come out of
the special appropriation. The point of this is
the special appropriation. The point of this is
the try out take a Commission in the army or have
roll automatically take you
that the fact of the fact of the fact of the fact
and the fact of the fact of the fact of the fact
place of the fact of the fact of the fact of the fact
place.

Yours vory truly, and also Yours for the 4th Liberty Lean,

Assistant to Mr. Edison.

## NAVY DEPARTMENT,

WASHINGTON,

September 24, 1918.

Mr. Thomas A. Edison, Orange, K. J.

My dear Mr. Edison: -

The room No. 2742-44 assigned to you for your personal use in the new Mavy Department Building in Potomac Park at 18th and B Streets, has been made ready for occupancy and is available for your use at any time you may desire it.

The contents of the room formerly occupied by you in the Mavy Annex have been removed to the new room, and I trust you will find the new office both commodious and comfortable, when you are ready to make use of it.

With kindest regards,

Yours sincerely,

Joe pan Daniel

THE SECRETARY OF THE NAVY

0-Lu

## NAVY DEPARTMENT WASHINGTON

September 26,1918.

Sir:

Referring to the request contained in your letter of the 25d instant, I am enclosing merewith a letter addressed to the Commandants of Mary Yards, which will secure for you admission to the navy yards whenever you desire to what them.

Sincerely yours,

Secretary of the Navy.

Mr. Thomas A. Edison, Orange, N.J.

Jan. Edinor forther he he had some in bret him he week the a

# WAR DEPARTMENT OFFICE OF THE ASSISTANT SECRETARY WASHINGTON, D.C. Sept.

September 26, 1918.

Mr. Thomas A. Edison,

Orange, New Jersey.

My dear Mr. Edison:

I am in receipt of your letter of September 23, 1918, and will arrange with the Engineering Division of the Ordnance so that you may be permitted, with two assistants, to try out your 3-inch masks bombs at the Aberdeen Proving Grounds. It may be a day or two before you hear from the Ordnance Department, but they will arrange for the test as soon as possible.

Yours very truly,

Sturded Contle

FBR-ACL

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDITION.

PRESIDENT.

WILLIAM L. SAUNDERS.

CHANNAM.

BENJAMIN D. THAYER.

VICE GRAINMAN.

THOMAS ROBINS.

EGGETANY.

OPPIOE OF THE SECRETARY 13 PARK ROW, NEW YORK

Sept. 26, 1918.

To the members of the Naval Consulting Board: Dear Sirs:

The next meeting of the Board will be held on Saturday, October 5, 1 918, at the office of the Naval Consulting Board in the new building of the Navy Department, 18th & B St. N.W., Washington, D.C.

The preliminary meeting begins as usual at nine o'clock and the formal meeting at ten.

Very truly yours,

Thomas Robins
Member and Secretary.

G.T.

September 28,1918.

Commandant, U. S. Submarine Base, Now London, Conn.

Dear Sir :-

I had my Secretary call your office on the talked with in: on myre, who call that after looking up data he would arise to me. I have not yot received any letter on the onlyet.

ing some special experiments on the absorbance of Submarines. Just not I am deliver the relative the relative to Just not I am deliver to the relative noise that could not not submarine to the relative noise that a submarine running for included 4 mote makes more noise (in a listening device) then an ordinary carge best running at 10 knots. Can you say whether or not this is true?

Can you give me roughly some approximate idea of the rolative distances of audibility of submarines running submarged and other vessels?

An early reply will be of assistance at the present stage of my work.

Yours very truly, and also Yours for the Fourth Liberty Loan.

Van Dyke aide to Constandent Vew Jondon-Can you give me approximately rouning sictive yes of Submerged at 14 Know makes more noise than an ordenary Decan go Cargo Goaf at 10 Guata But some idage of the relation as to dislances of andibilly form s.n. 141-8-3-18

Captain S. S. Robison, U. S. N., (Senior Member) Captain John T. Tompkins, U. S. N. Commander W. T. Tarrant, U. S. N. Commander C. S. McDowell, U. S. N. Secretary

Lleut, Comdr. M. A. Libby, U. S. N. Lleut, Comdr. T. S. Wilkinson, Jr., U. S. N. Prof. G. K. Calhoun, U. S. N. Lleut. H. R. Bogusch, U. S. N.

NAVY DEPARTMENT

SPECIAL BOARD

NAVAL EXPERIMENTAL STATION

New London, Connecticut 28 September 1918

ADVISORY MUMBERS Lieut, Colonel R. A. Millikan,

Dr. F. B. Jewett Dr W R Whitney Mr. H. I. W. Foy

Listering povide

Mr. Thomas A. Edison, Orange. New Jersey.

Dear Sir: -

Hith reference to your telephone conversa-tion this date with Sheign Van Dyke, of the Maval District Base, I am pleased to submit the following information in regard to the relative ranges of audibility of a submarine running submerged at a speed of four knots, and an ocean-going cargo ship running at a speed of ten knots. It is apparent that the range of audibility of any sound in the water will vary with the type of apparatus employed in the detection of that sound. Accordingly there are included ranges of audibility for both mechanical and electrical detection apparatus the latter being the more sensitive of the two. In all the latter call in more segmenting of me wow. In this cases the cosen-going carge ship will produce a great-noise than the submarine, pinder ordinary weakhour orditions a mechanical type will enable dittons a mechanical type will enable a date of the submarine ordinary submarine for the submarine continue submarine of a speed of four knots at a dataset or 2000 yards; will a speed of four knots at a dataset or 2000 yards; will a spear of four knows as a distance of soon years; with deteof the sound of an ocean-going carge ship running at a speed of ten knots at a distance of 12,000 yards. Under like weather conditions an electrical appearance which will enable an observer to detect the sound of a which will enable an observer to detect the sound of a submarine running submerged at a speed of four knots at a distance of 10,000 yards, will detect the sound of an ocean-going cargo ship running at ten knots at a distance of 40,000 yards.

All the above comparative data is based upon the assumption that there are no other vessels in the vicinity of the observing ship to interfere with the detection of the submarine or ocean-going cargo ship. Ranges will also vary with the different types of ships and submarines, and with individual observers: those given above are the averages of many observations. It is hoped this information will be of value to you.

Very sincerely, Morfus

All communications should be accompanied by carbon copy and addressed to

OFFICE OF THE CHIEF OF ORDNANCE

in replying refer to
Eu)
No.
Attention of

ENGINEERING DIVISION
WASHINGTON

sept. 28, 1918

3.0. WARDEST

Hr. Thomas A. Edison, Orange, H.J.

Dear Sir:-

1. In compliance with the request of the acting terminal processing of dar, the Communating Officer at abordeen investigation and the control abordeen in the best directed to facultah every facility for yourself and two accidenates, for the purpose of testing the O' scale bests invented by you.

2. It is desired that this letter be presented by you to the Commanding Officer, aberdeen enving Ground, on arrival, for the purpose of identification.

By direction of the Chief of Cranamue

Respectivity,

Manes J. Dillard Colonel, Ord. Dort., U.S.A.

## NAVAL CONSULTING BOARD

#### OF THE UNITED STATES

THOMAS A. EDISON.
PRESIDENT.
WILLIAM L. SAUNDERS,
CHIRAM.
BENJAMIN B. THAYER,
WILL GRAHMAN.
THOMAS ROBINS.
HORIZAT.

OFFICE OF THE SECRETARY

13 PARK ROW, NEW YORK

#### ANNOUNCEMENT

Suitable space having been provided for the Naval Consuiting Board in the new building of the Navy Department, at Washington, D.C., the preliminary examination of inventions, which heretofore has been conducted in the New York office, has been transferred to Washington, where it will be directed by our resident meaber, Mr. David W. Brunton.

All correspondence relating to inventions should be addressed as follows:

Neval Consulting Board, Nevy Department, Washington, D.C.

NAVAL CONSULTING BOARD,

THOMAS ROBINS, Member and Secretary.

Naval Consulting Board and Related Wartime Research Papers Correspondence October 1918 ADDRESS HERLY TO THE SECRETARY OF THE NAVY AND REFER TO INITIALS AND NO.

## NAVY DEPARTMENT

Op-14-A-ES-9/26 28/05-1137 WASHINGTON

007 1 1918

My dear Mr. Edison:

Replying to your letter of Sept. 12th, 1918, in which you refer to the U.S.S.SACHEM, in dry dook, and ask if it will be possible to exchange her for a similar boat of ebout the eams length but supplie of a higher speed, I have to say thet no vessel of this character is now available, the SACHEM available, the treatment of the same of the sa

w

Sincerely yours

Mr. Thomas A. Edieon,

Orange.

New Jereey.

# NAVAL CONSULTING BOARD

THOMAS A. EDISON.
WILLIAM L. SAUNDERS.
GHAIRMAN.
BENJAMIN B. THAYER.
THOMAS ROBINS.
THOMAS ROBINS.

OF THE UNITED STATES

OFFICE OF LAWRENCE ADDICKS 6 CHUNCH STREET

A-235.

New York, N. Y., October 3, 1918.

TO THE MEADERS OF THE MAYAL COMSULTING BOARD:

I enclose herewith copies of the discussion of my motion to abolish the standing technical committees of the Board.

Since then I have received Er. Elisan's comments, reading: "Bood; now they will get results." Also a Lotter from Prof. Elchards, reading in part: "I did not receive your letter of September 16th after my return here after our Saturday meeting. You will understand, therefore, that I had had no notice ----- That was the principal reason why I urged that more time be given to consider it, and not that I was greatly opposed to its."

Very truly yours,

مباعل

# Extract from notes taken at meeting of Mayal Consulting Board hold on September 21, 1918.

Relative to proposition of Mr. Lawrence Addicks to abolish the pormanent technical committees of the Board.

<u>Kr. Addition</u>. I have been of the opinion for eace time that our whole Committee system was wrong, and in the last four weeks I have trice occession to discuss this with quite a number of members and have come rather to the conclusion that is this proposed notion I was simply mixing expression of a general opinion. I, therefore, offer the following motion:

That all present standing technical committees of the Board be hereby aboliched and that each new problem be hereafter entrusted to the number in the opinion of the Chairman or his delegate best qualified to deal with it at the time being.

In presenting that motion I have several things in mind. In the first place our present countities system imposes contain handicaps the initial sector, and it seems to me that the work of this Joard is being done at the Present time by individuals. We were chosen os individuals in the first place and I do not think we work well on countities. I do not believe that one of se could may at a moment's motion just what committees he is a number of

There are other objections to the committee system. We should play the gene according to the rules, and that means that under the present system of if a problem comes up it should be referred to the chairmen of the appropriate committee. How let us suppose that Mr. Hunt for example were chairmen of the fault headling committee. Let us suppose that a recommendation comes in here for seasining for pondered coal. How it is not fair to Mr. Hunt and to the

problem itself to be referred to him becomes he caye he does not believe in its development. How it seems to me a cardinal point to get the evelopment of a thing into the hands of a men who has faith in it end while refer the hands of a men who has faith in it end while refer the hard not letture, end the min it is right to here a problem to to-day may not be the right men a month from to-day. Therefore, I think two healt all recognise that what we do now illugitimately should be made legitimately and I, therefore, after this motion as read.

Mr. Thayer seconded the motion.

Er. Remet: I should think Hr. Chairman that like other hard to would be necessary to have committees for epocial purposes, but I undurated the date is to abolish the persenent committees. I can rathed in fever or think, for it is wexperience that engineering as such can never be done by committees. They may discuss it or stundardise it or approve of it, but they commot do it. Horovor: it is extremely hard for these committees to get together. They almost never meet and if they do meet they get together at very great brouble and very little is accomplished. I have been at due or two mostlings, did precitically none of them amounted to saything.

I have been a good deal troubled about the usefulness of this Board and about my status as a member of it from the boginning, because I have a vague feeling that I on not doing my duty and I do not like to be in a position where something is expected of me which I am not delivering but I believe that I am not delivering but I believe that I am not delivering to which membership in this Board in a way contributes,

because I am doing a lot of work for the Kavy and it has brought me into contact with people when I otherwise might not have come into contact with. By idea is that continearing has not to be fone individually. We

have a very fine lot of engineers, but I believe that at in other coch things they must individually acquire influence and we count at a Board expect to gain authority and influence in the Newy. We can individually acquire influence, and if we do so the Newy will pay attention to us, but I believe that the more we not individually and the more we try to be individually responsible for our recommendations and statements, the more respect we will acquire, because our joint opinious are likely not to be sufficiently definite to be valuable.

Dr. Resicland. Hr. Chairman, I am entirely in fevor of the rotten of Hr. Addicks, and what Hr. Emmet says I known personally has been very brue in several cases with which I was commerced. For instance I am a member of the committee on orders and explosives. That like all committees is an emmer of the committee of committee of a segment of the committee equally example to pass on the different analyses which it ambroose. I am always gotting referred to me matters of small arms and rapid fire gume about which I have checkwishly nothing, and I simply have the translate of writing and saying a law so with all the other domnities and their members. It is return about an ambrook of the to work to another or others are not provided in the work to anderse or to express an opinion or to vote on a miljoet water I have declared myself incompetent. If I could keep my responsibility to the chemical side of it it would be easy enough. I believe that that recommendation

of Mr. Addices will simply confirm and legalize a metter of practice which we really have adopted long ago, and if we have not adopted it we will be of very little corrise in this Board.

Comnot everything that Mr. Addicte wants done be done Mr. Miller: without abolishing the committees? I remamber having sat at meetings of the transportation committee two or three times, and I am very certain that it was not a case of one men knowing it all. In this instance I think the committee did excellent work. Duppose now that we just take the next step mentally and we pure that resolution. What are you going to do about it? Who gete these various inventions? Hr. Brunton or Admiral Smith? Now if we suthorize them to use their indement respecting the obtaining of an individual opinion or four or five individual opinions, have not we given to Mr. Brunton and Admiral Smith exactly what Mr. Addicks wenter Now I have found in the work of my committee that I have been practically following Mr. Addicks' idea for several months. When I have a question that I want to pass around among a certain committee I arranged the order of circulation with the expectation that the first member mentioned will write the opinion, for I have found a great disposition to say "Me too". I have cases in which the first man expressed the opinion I expected and the next men agreed with it but the third men took the opposite eide and the first man's report did not avail. Therefore, my experience has proved to me that a one men opinion is not enough. It must be confirmed. Admiral Smith made a very excellent suggestion. He said, I

propose to send the same question to three different people, setting independent opinions, and that information will come to me. How that can be smoossaful only if Admiral Smith knows who is who and what it what. I want to soo the scaledile, I want to know how they are going to write it down, what is the observer of questions for which such any new a sent is going to be nominated. I know well enough a collectory proposition would come to me because there is nobely size that I know of knows crything about it, and if it was a belt conveyor it would go to Mr. Robins.

Lot then present that list at the most meeting and then we can deside so to the warking of the thing on the plan which he proposes. At any rate I do not want to see the countriese sholished to-day, but I do want to authorize Hr. Brunton or whosver passes out these things, to use that procedure as magneted at their discretion.

Hr. Addicte. I would like to ensure a couple of Mr. Miller's points. In the first place the object of shollshing present countities is really to relieve Admiral Smith and Mr. Brunten of their present emberresement in going round the chairman of the countities. By shollshing that position of the Admirant, it allows each question to be dealt with on its individual marks. Now as to the question of a countities to deal with each individual case, that is really what I have in mind, but I think it is where to allow the member to be scheeced to deal with the problem and let him associate with immediation much members us he wants for that particular thing. He cam ark often members decided with him or he can decide he wants to do it all himself. The present

system really ties down whoever is dealing out the problems. No either has to use various forms of diplomacy or run the risk of affending somebody and it is to prevent that that I bring the corollation.

Hr. Hunerer: It is the recommendations in mon which carry no particular weight. There are for matters which have been every weight whichever with either the Hary Department or the Hery. The Hery does pay attention to the work of individuals. It pays practically no attention to the recommendations of a committee or of the Board itself. From in the one case where a special problem was put up to us by the Secretary of the Hary, we have could how perfectly useless the recommendation of the Board was. The ophalon of an individual blocked the recommendation of the Board was. The ophalon of an individual hocked the recommendation of the Board, Bo far as I am concerned I am giving up precisionly all my time to Haval matters. So far as I am individually concerned I have all the problems I want to tackle, but I think the oriticism of committees is precisely a criticism of the Board; that matters cannot be worked out as a whole.

Dr. Enthisons. Why commot that be colved by the man recommending it himself? Every man on this Board has some particular bug and why not let a man select himself with the approval of the chair?

Mr. Lemma. There is one point I think the present Board is defective in.
That is nobely knows what relation each of we holds to engineers outside of
the Board. We are supposed to get in outside advice. Forthage 50% of the
work I have done is with people who are not on the Board. It seems to me

that somebody ought to have a list not only of members but of other man with whom each our get in touch. Apparently nobody lowers get what someodicus I have, and for instense they might, therefore, in putting up a problem miss no, and it meems to me that nombody have ought to have the information as to what field each number ought to cover, do that you will not miss the right man.

ir. Therer: I seconded Mr. Addictor' notice, but took it for granted that ir. Addictor did not mean that a number designed by the chatemen would pass upon that proportion individually but really extensically become the chatimen of what is practically a special countries on that subject. What was your idea as to how the men should be adjected? It overwhing to come to the chair? If so, I can see where he will be furtice.

Mr. Addicts. I had in mind the larger problems. There is only a certain car bomb problem. If I were the chair and id not have already before on the right and I would could around a circular letter sating each if he was interrebed and thought he could make progress on its. After he got the replice the chairmen would put then together and pick out, taking all conditions into consideration, the one whom he would choose.

Prof. Skylvardia.

Your motion is directed mainly to the larger questions, and would not be vary - - .

I more Hr. Chairman that the consideration of this reconstitute by postponed until the next meeting.

125

Hr. Billery seconded the motion, which was carried.

He. Experient. We must have a very wall thought out mythol of getting the possibilty variable inventions to the right numbers of the Bornt for considerables. I think that the perhaps Prof. Richards is right; that the majour coght to be free to rafer problems of that kind to distinguished constitute in whatever lime the invention might belongs.

Hr. SPETTEL I have done that quide a number of times, and I know un one conceins the secrety of the thing was called into question, but I think: the secret was just as safe in their hands as it was in mine. The prins 4.70 got as the fact; get at someone who knows that particular thing-

Har. Journey. There is one point in this matter, and that is the question of appropriations. For a committee takes care of appropriations, and all the manber wait on the same account. But if three or four members were a working on the same problem, each would assumptly here to have a different same working on the same problem, each would assume the volcal one.

in discussion here ended.

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Oct. 3, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

The enclosed copy of an order signed by the Secretary of the Navy is sent to the members in accordance with letter refeived from Admiral Smith as follows:

From: To:

Secretary of the Navy - Inventions. Naval Consulting Board, attention of Secretary.

SUBJECT:

Naval Consulting Board office in New Navy Building and communications with this office and the Board and its members.

There is forwarded, herewith, thirty (30) copies of an order signed by the Secretary of the Navy for information of the Members of the Board.

(signed) W. Strother Smith

Rear Admiral, U. S. Navy. By direction.

Very truly yours,

Thomas Robins

by G. T.

THE SECRETARY OF THE NAVY AND REPER TO NO

#### NAVY DEPARTMENT WASHINGTON

September 13, 1918.

From: To:

Secretary of the Navy.

Chief of Operations, all Bureaus and offices in the Navy Department and to the Naval Consulting Board.

SUBJECT: Naval Consulting Board office in New Navy Building and communications with this office and the Board and its members.

- 1. The office of the Naval Consulting Board, under the direction of fir. D. W. Brunton, Member in charge, for the examination of inventions and for all communications to the Board and its Committees, has been established in Rocs 547 and adjoining rooms in the New Mavy Building adjacent to the office of the liaison officer, Rear Admiral W. Strother Smith, U. S. N.
- The records and files of all inventions, devices and ideas presented both to the Navy Department and the Naval Consulting Board will be kept in the file room of the "Secretary of the Navy - Inventions", connected with the office of the liaison officer above mentioned.
- For better coordination of work, more complete record and easier reference, it is directed that all communications between the Navy Department and any of its Offices or Bureaus both to and from the Naval Consulting Board be addressed "Secretary of the Navy - Inventions".
- 4. If practical, a copy of the action of any Bureau on any invention will be sent to the above officer for record.

/S/ Josephus Daniels.

October 7.1918.

Capt. Warron S. Harris, U. S. S. Sachom, S. P. 192, Hew York, H.Y.

Dear Captain Harris:

writing to you to introduce Ur. A. H. Bunt, a Member of the Heval Consulting Hours. If Hunt, a Member of the Heval Consulting Hours. If Hunt has some special dovice concerning the burning of coal in a special manner and Hr. Edison thinks it would be well for you to try this under one of your believe.

ir. Hunt is also very much interested in the sea anchor and ir. Edison says that you can explain the whole thing to him and show him any parts that you have.

Yours vory truly.

Assistant to Mr. Edison.

IN REPLY ADDRESS
THE SECRETARY OF THE NAVY
AND REFER TO NO.

### NAVY DEPARTMENT WASHINGTON

WSS/VR

October 7, 1918.

My dear Mr. Meadowcroft:

The Secretary told me today that he wanted me to go up to Orange and have a conference with life. Saison so as to get information regarding ir. Edison's experiments with a view to getting quick action thereon also to get material for the Secretary's annual report.

I can leave here elmost any night and be in Orange by office hours, say ten of clock in the morning the most day are the colock in the account of the colock of the colock of the cay or account full me all he wants to impart in a very short time.

Will you please arrange with Mr. Edison the day that will be most convenient to him and either call me on the phone or wire me to that effect?

Very sincerely,

Mr. Vm. H. Meadoweroft, Edison Laboratory, Orange, N. J.

October 8,1918.

#### ::PEhSONAL::

Hon. Josephus Daniels. The Secretary of the Ravy. Washington, D. C.

My dear Mr. Daniels:

to the fact that the hotel your attention explosions in Submertical the hotel proposed for proventing explosions at Submertical the fact that the proposed for the purpose, but turned down as it was selected to be fragile, and, therefore, not graticable, has been in an operating Submertice at Key beet for the last seven months, and is still in good conditions.

I also want to call your attention to the Macke, intended to save the mon from the Lead Storage Satteny excidente, has been received at Key Weet. This was suggested by me nine months ago. The Army had then in stock at the time I made the suggestion.

Yours sincerely, and Yours for the Fourth Liberty Losn,

I want to call your attention, that the hydrogen Detector for preventing Explosions in Sulcure which was admitted by the heads of West as perfect for the prespose but twined down as it was asserted to 62 fragile & Therefore not percelicable has been in an Openating Submovine at Key West for the last of months, + wo man I also want 10. still in good continued. Call your attention to the fact that it is only withe last mouth that Chloring masks to save the most from The Lead ballony acadents has been orecaves at Key Local This was suggested by nie thing mouths ago The army has there in stock at the Lime I repete the suggestion -

Octobor 8,1918.

Chief of Ordnance, U.S..., war Department, washington, D. C.

Sir:- Atten: Captain B. E. Estes:

It gives no pleasure to recommend for a Commission, ir william G. walker of hear root city. He was associated with no for about two months on some special experimental work for the Government, and in the course of that work displayed a high degree of intelligence, ability and application.

Lespoctfully yours,

A/5787.

October 9,1918.

Roar-Admirel W. Strother Smith, U.S.H., Havy Department, Washington, D.C.

My doer admiral:

came to head this morning, and I immediately took it up with are Edicon the following telegram:

to see you at any time most convenient to yourself. He is here every day. Please wire me when you doubte to come"

awaiting receipt of advice from you, I

romain.

Yours sincerely, and Yours for the Fourth Liberty Loan,

assistant to Mr. Edison.

L/5794.

### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A EDISON,
PARENDENT,
WILLIAM L SAUNDERS,
BENJAMIN B THAYER,
YOR CHMIMAN
THOMAS ROBINS,
GEGRETARY,

OFFICE OF THE SECRETARY

13 PARK ROW, NEW YORK

October 9, 1918.

To the members of the Naval Consulting Board:

Gentlsmen:

In accordance with the Board's decision, our next mesting will be held at Aberdesn, Md,, on Saturday, October 19.

Members from Washington should take the B. & O. train leaving at 7.40 A.M., reaching Aberdeen at 9.21. Other members who spend the night take Battimore or you there the bear of train, which leaves Baltimore at 8.35 Camden Station, or 8.40 at Mount Royal Station.

There is another train, on the Pennsylvania, which leaves Baltimors at 8 A.M., reaching Aberdeen at 3.41, but I am unable to ascertain the distance between the Pennsylvania and B. & O. Stations at Aberdeen, and would therefore recommend if any members should reach Baltimore by the Pennsylvania R. R. they transfer to the B. & O. R. R., Mt. Royal Station, a short ride by taxicab.

Several members have announced their intention of spending Friday night at Baltimore. If it is desired, I should be glad to arrange for hotel accommodations for them, provided I am notified not later than Friday noon of this week.

Will you kindly notify me of your intentions at the earliest possible moment, using the enclosed form.

Yours very truly,

Thomas Robins,

per G.T.

TR/gt

Oot. , 1918.

attend the meeting at Aberdeen,

Md., on Saturday, October 19.

030 000 000

Please accompdations for me

at a hotel in Baltimore for Friday night,

Thosa Colision

October 10.1918.

Rear-somirel h. Strother Smith, U. S. H.,

Havy Dopartment,

Washington, D. C.

My dear admiral:

Allow me to hand you hereafth our Laboratory bill for experimental work done by lr. Edison covering a period, July-21st,1913 to September 30, 1918, at cost, amounting to 10,007.67.

This bill is sent in auplicate, certified to by Mr. Edison.

when the check is ready, you can forward it to me as usual.

Yours vory truly, and Yours for the Fourth Liberty Loan,

Assistant to Mr. Edison.

Englosure

October 10,1918.

Hon. Benedict Crowell, Acting Secretary of War, Washington, D. C.

Dear Mr. Crowell:

to by hir. Edison.

Allow me to hand you herewith our Laboratory bill for experiments done by 3r. Adicon, at the request of Socretary Baker, covering a period July Slat, 1916 to September 30th, 1916, at cost, amounting to \$4,345.61.

This bill is sent in duplicate, cortifica

when the check is ready, you can forward it to me as usual.

Yours very truly, and Yours for the Fourth Liberty Loan,

assistant to Mr. Edison.

Enclosure.

### NAVAL CONSULTING BOARD

#### OF THE UNITED STATES

THOMAS A. EDISON.
WILLIAM L. SAUNDERS.
BENJAMIN B. THAYER.
THOMAS ROBINS:

OFFICE OF
LAWRENCE ADDICKS
6 CHURCH STREET
NEW YORK
A-264

New York, N. Y., October 10, 1918.

Thomas A. Edison, Esq.,

Chairman, Mayal Consulting Board,

West Orange, N. J.

Dear Mr. Edisons -

#### PROBLEMS:

You probably know that I have recently returned from a long stay abroad, three months of which were in the general war zone, having been through the Mediterranean and the English and Irish Channels.

I brought back several fairly definite problems which I have outlined to the Board; but, owing to your absence from the mestings, they may not have reached you, and I thought you might be interested to hear of them.

#### MARKER SHELL:

When the perisoope is eighted it would be desirable to have a shell which could be put in an ordinary 3" rific, which, upon reaching the water, will light a worth; buten not less than 3 minutes. The object of this is to place a light in the cosem where the depth bomb should be dropped when the destroyer has time to reach the spot.

#### DECK GUN:

A destroyer coossionally sights a personne inside its normal turning of 700 yards, which means that it has to go through a double evolution to reach the spot, as it cannot turn directly. In this connection it would be desirable Thos. A. Edison - Sheet #2. A-264 - Oct. 10, 1918.

to fire a normal depth bomb from a gum with a maximum range of 700 yards. This is now done on a very small scale by the Y gume now mounted on our chasers, the one detaining the depth charge being botted to a maniful which is inserted in the gum. It is also being done on the British ships for perhaps 200 yards, but the gum tonds to kick so severely as to demage the dock.

### MAGNET TORPEDO DETCHATOR:

Considerable success has attended the hunting of submarines by night by a submarine. In this case the ensuy is on the surface and is destroyed by a terpedo. The effectiveness of the torpedo could be greatly increased if it were arranged so that it could be magnetically detomated in case it missed its mark but omes within a reasonable distance. Captured Corman torpedoes indicate that the ensuy already possesses such a device.

#### MINES:

While immomes success has attended the use of a mine barrage in the English Chammal and North Sea, the perfect mine is yet to be devised. What is desired is a mine which will stead a 5 knot tide and maintain an approximately equal submersion at all stages of tide. The mine need not come to actual contact with the object to be destroyed, as it has a sure range of motion of certainly 20 ft. The present mines have, as you doubtless know, tentacles of bronze firing by voltaic action, but apparently they have much trouble with the stack on the suchbrage.

#### LISTENING DEVICE CUT-OUT;

One difficulty attached to the use of listening devices is the terrific noise and possible permanent injury to the listener in case he happene to be using the device when a depth bomb is destroyed in the vicinity. A device which would automatically suppress these abnormal heavy waves, particularly

Mr. Thos. Edison - Shest #3 - A-264 -October 10, 1918.

in the mechanical listening device, is desirable.

UNE OF LISTENING DEVICES ON AIR SHIFS:

The general problem of making available the present listening devices in connection with either the derigible or a seatlane has great possibilities. This is a problem on which very little has been done as yet. The advantage over a boat is that the enemy is unable to hear suything himself, whereas an approaching destroyer gives him ample warning. The idea would be to use the air ships as marker buoys, the actual depth charges being released by surface overfi-

Yours very truly,

adx

Er. Lewrence Addicks, 6 Church Street, New York, H.Y.

Doar Lir. Addicks:

I have received your letter of the loth instant, and will reply sociatim:

#### MARKE SHELL:

It seems to me there should be no difficulty in this. A regular Coston Light (Calcium Bhosphide) could be combined with a regular shell.

#### DECK GUH:

It should not require much engineering ability to cushion the stress of the gun over several feet and distribute the stress over a considerable area of the beat.

#### MAGNET TORFEDO DETURATOR:

I doubt if the Germans have an effoctive device of this kind.

#### LISTERING DEVICE CUT-OUT:

nn my opinion, the only effective may to of a small [asy, 4 pound ) bonb at the assection, or two or three seconds before the main depth bonb. The small bomb should explade on touching the mater. This could be heard over a large area and give sufficient time to withdraw the litering tubes.

The other problems are somewhat out of my line. One of our troubles here is that the Mavy people are non-receptive of any ideas whatever if they

are put forth by civilians.

I am much obliged to you for sending the information in your letter.

Apholis -

Marker shell - There is no defficiently in Their a regular Coston dighty (Caderium phrosphide) can be trustement with a Regular wheal

Dech guns - it will not league much Engineering ability to Cuchian the Strass of the gun our scornel that the destratula the obuss over a consider when the course of the contract of

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### NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON.
PARENDENT.
WILLIAM L. SAUNDERS.
CHURNAN.
BENJAMIN B. THAYER.
WICE CHAPMAN
THOMAS ROBINS.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Oot. 12, 1918,

To the membere of the Naval Conculting Board: Dear Sira:

Due to the great increase of Spanish Influenza, which has appeared in malignant form at the Aberdeen Proving Ground, it has been decided by the Chairman to be inadvicable to hold the meeting there on Saturday, October 19th, of which notice was recently sent. This meeting has therefore been indefinitely postponed.

A opecial gathering of the Board will take place in New York at 11.30 the coming Monday morning, October 14th, for the purpose of meeting Sir Eric Geddee, First Lord of the Eritish Admiralty. In connection with this the following telegram was cent yesterday to all members, and is hereby confirmed:

Scoretary of the Mary has arranged that Sir Erio Goddes, Pirot Lond of the British Admiralty, will neet the Beard in New York next Monday morning, October Courteents, at eleven thirty at the Engineering Societies Building, West thirty-ninth errest. It is requested that all members be present. Mr. Edison will be there. Answer to Robins office, will be there.

The place of meeting at the Engineering Societies

Building will be the Board Room of the American Society of Civil
Engineers.

Very truly yours,

Thomae Robins, per G.T. Telegrain Oct 12/18

The Robins 13 Pack Row

newyork IV. Edwar expects to be

al meeting on monday,

WH. measowriof

# THE SECRETARY OF THE NAVY.

October 14, 1918.

My dear Mr. Edison:

I thank you very much for your letter of October 8th, and I took this matter up at once with the heads of the Bureau. I have given instructions that all your suggestions shall have immediate consideration, and I suppose your views will have been carried out. I will write you shortly.

I have been hoping to see you lately, but have been trying to do two men's work. Always

Faithfully yours,

Mr. Thomas A. Edison Orange, New Jersey

October 1:,1918.

Rear-Admiral L. Strother Smith, U.S.H., Havy Department, hashington, D. C.

My doar admiral:

report of Capital Hearin concerning the test made with the sea mencher. As you already have the blue print, showing the curren mentioned in this report, it will not be necessary to send you enther one at this time. Of course, if you want further prints, i shell be gled to supply or many as you wish.

Er. Edison was much encouraged by your visit, and is now looking forward to early action.

Yours cincerely, and Yours for the Fourth Liberty Loan,

Assistant to Mr. Edison.

Enclosure.

October 18,1918.

My dear friend Brashear:

me a Fishe kange Finder to be used in come of my experiments for our burde to be used in come of my experiments for our burde to be used in come of my experiments for our burder of the come of my very useful, and so that the same of the come of my very useful, and so that the same point to return the instruction of the come of the control that the but whother anything will ever come of it goodness only known. Anyway, there is one thing I am cure of end that in my some of thenkfulness to you for your willing readiness to hop out.

for Uncle Sam ever since Samury of lest year, and am still at it. It has given me lot of new things to think of and I have enjoyed the work.

If you ever happen to be down in this direction, don't feil to drop in and see me. The latch string is always out to you.

with kind rogerds, I romain,

Yours sincoroly, also Yours for the Fourth Liberty Lean,

Mr. John A. Brashear,

IN REPLY ADDRESS
THE SECRETARY OF THE NAVY
AND REFER TO NO.

#### NAVY DEPARTMENT

#### WASHINGTON

WSS/VR/26840

October 18, 1918.

My dear Mr. Meadoworoft:

- I take pleasure in acknowledging your letter of the 15th forwarding a copy of the report of Captain Harris concerning the test made with the sea anchor. I will forward that to the correct office.
- I have been talking over the result of my visit to Mr. Rison and it has been suggested that Mr. Rison make up a listening device suitable for installation on a submarine hoaser and send the same to be attached to one of the vessels now located at New London for a series of triale in commention with submarines. I was so much impressed with the fine mechanical work and simplicity of design that I would like very much for it to be tested in comparison with other devices especially as it requires no alteration in a hull more than fitting a spar out from the bow.
- If this meets with Mr. Edison's approval please let me know right away and I will forward the Spheer plan of a submarine chaser so that he oan get the correct proportion.
- I am also taking steps to get an order for one to be placed either on a transport or a vessel being built under the cognizance of the Emergency Fleet Corporation.
- I am sure that if the test at New London shows any good result that we could put one on a transport and obtain much quicker results than could be done by waiting for a ship now being built.
- I am also taking up the other questions that I looked over, with the idea of placing one into immediate service for actual trial at sea.

Very sincerely yours

Mr. Wm. H. Meadowcroft, Edison Laboratory, Orange, N. J.

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON. WILLIAM L. SAUNDERS. BENJAMIN B THAYER

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

ectober 19, 1918.

. To the Members of the Naval Consulting Board:-Gentlemen:

The next meeting of the Naval consulting Board will be held on Saturday, November 2rd, at the office of the Board in the new Navy Building, Washington, D. C.

The informal meeting begins at nine o'olook and the fermal meeting at ten.

Very truly yours,

THOMAS ROBINS,

Secretary, Por G. C. T.

Ontohow CT 1978.

hear-admiral W. Strother Smith, U.S.H.,

Havy Department,

mashington, D. C.

My dear Admiral:

I have received your letter of October 19th. I can't spare the men to take the apparatus to liew London to listen for submarines.

Perhaps 1 did not make myself clear in our convorsation, but lot me say once more that the apparatus is made only to listen for torpodoms and was never intended for detecting submarines.

if real progress to be made I should have an order for four 9 foot sea amehors and four 10 foot sea embors and four 10 foot sea embors and 11 ton the search of the for two bosss and 11 ton the search of the profile of the search of the sear

Then I propose to have the old histohouse to repeat the first out onemwhere slong the total passes the same of the propose and on this same of the sam

when I have dono this, I will take up the question of detecting the submarine itself. I make no claims as to this as I have never worked on it.

thing. If the Secretary will insert to my discretion, is for him to give me a letter authorizing me to do what is above stated, and with that letter I can get the things I want and get right on the job.

Yours sincerely,

Reas admial W. Shotler Smith I have received your teller of Lag cant spare the wen to take the apparets to New Courdon Co Listen to Duchmarines. I getting I did not make myeel of on make myeel of on the me day need me day the alphaceinhus is mode a mode ouly for tongedown Lucour ulanded for detecting Duban

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NAVY DEPARTMENT

N.N.LS

OFFICE OF NAVAL INTELLIGENCE BRANCH OFFICE

288 FOURTH AVENUE NEW YORK

PERSONAL

ond COMPIDENTIAL.

SE:-12

October Twenty-first

Dear Mr. Edison:

I take great pleasure in enclosing herewith Identification Card No. 511, which has been issued to you by the Office of Naval Intelligence in Washington, D. C.

Will you be so kind as to sign the enclosed receipt and return to this office as soon as possible.

We are delighted that you have come on the list of those who are working in connection with this office.

Very truly yours,

Lieut-Commander, USBRF.

Er. Thomas A. Edison, Orange, Now Jersey.

PETER COOPER HEWITT 18 EAST 339 STREET NEW YORK, N. Y.

TELEPHONE VANDEBBILT 028

October 21st, 1916.

Mr. Thomas A. Adison,

Orange, H. J.

Lear Edison:-

I enclose copy of the readings taken in the helicopter test No. 5. I had hoped that you would witness a better one.

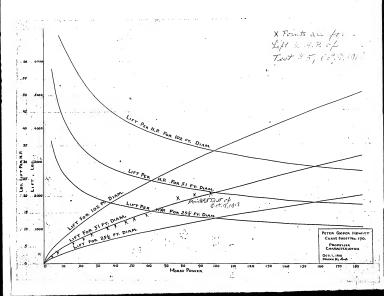
I find that there is a definite rolation between the diameter, lift por horse-power and the exact horsepower a smeltine will take and give a given lift per horsepower; in other words, for a desired lift por horse-power, increase of diameter is necessary in order to be able to use additional horse-power.

I wish to say again how much I appreciated your taking the trouble to come over to see my machine, and also how much pleasure it gave me to see you and get your comments.

Pele forten Hewitt

# COPY.

October 9th, 1918. Test Ho. LIFT per HORSE-POWER HORSE-POSER LIFT, 1bs. 61.2 2.78 17 170 54.5 19.75 230 4.22 7.1 46.5 24 330 37.2 570 15.3 31.5 23.8 31.5 750 38 27.8 32.0 890 40 29.4 36.1 44 1060 27.7 1160 41.8 46 1260 47.6 26.5 48 53.8 25.1 1350 50 24.6 58.2 1430 52 25.1 6916 55 1610 23.9 58 1900 79.4 0.88 23.1 60.5 2030 63 2130 96.8 22.0



Jotober 23,1918.

Dr. Peter Cooper Hewitt, 18 East 33d Street, New York, H.Y.

Dear Doctor Hewitt:

ir. Edicon received your letter of the flat instant, togother with copy of the readings taken in the helicopter test ac. 5, togother with the curve theet, and to wissee ac to thank you for sonding name. He has read it with a good deal of interest.

He has asked me to forward to you tho enclosed check for \$100.00, in accordance with his understanding with you last Saturday.

Yours very truly,

Assistant to ar. Edison.

ADDRESS REPLY TO THE SECRETARY OF THE NAVY AND REPER TO INITIALS

0p-51-8. 272/7-450

## NAVY DEPARTMENT WASHINGTON

24 October, 1918.

My dear Mr. Edison:

Referring to your letter of 8 October, concerning hydrogen detectors and gas masks for submarines:-

vice tests of hydrogen detectors and eliminators have been going on for some time. I note what a liminators have been going on for some time. I note what he means to be record of your detection device in the bushmarine in saline waters, and its performance will be given full considerations. tion.

The matter of supplying gas masks to submarines has necessarily been one of priority, which no doubt, you duly appreciate.

Very sincerely yours,

repennamiel.

Mr. Thomas A. Edison, Orange, New Jersey.

# United States Navy Yard,

October 24, 1918.

My dear Mr. Edison:

I gethered together what propellers I could find of from 20 to 22 inches dissenter (which is the size for motor sailers) and tried them for pitch. They are all oast from motor the same pattern and to we are appeared to be about the same pitch, that is about 0, but they are so (not we friend, inc. overloses that they are so (not we friend, inc. overloses) the same pattern and the balls and gongs for the orchestras, to come in here with his standard bars and listen to them and he found one that he pronounced to be 0.6. He says that to raise the pitch we will have to take the pattern, thicken up the blades with most that it. I suppose that when the shaft is put in and bolted it will change the pitch of the combination but have not tried that yet.

ings babbitted or just bored for a running fit, and whether you need a stuffing box in case the wheel is to be run immorred in water. Also please tell me beaut med ray you want the shart and if you need a coupling flange on it.

I hope to come down to Orange in a few days, if possible.

Very sincerely yours,

Mr. Thomas A. Edison, c/o Edison Laboratory, Orange, N. J.

(5874)

Wenry C. Frick Educational Commission

OHN A. BRABHEAR, PRESSAN, V. LUCIEN SCAPE, SECT & TREAS, MARLES REISFAR, JA. 1008.00 W. GERWIG ON, JOHN D. SHAPER HOH, JOSEPH BUPFINGTON BUFFORD B. CONNELLEY HARTHA C. HOYT, GON. SECRETARY OFFICE: 365 FRICK ANNEX
TELEPHONE GENET 1550
HOME OFFICE: 1954 PERRYSVILLE AVENUE
TELEPHONE CEOAR 320

Pittsburgh. PA. October 24, 1918.

My dear Uncle Tommy :-

Thank you for your splonded letter of October 18th I have not eshed the boys whether the rempe finder has been received or not, but it is all right enyay - just so you got the use out of it that was your wish. It is a delight to do snything for you.

and you will never stop plugging away right clong, heaven as I can sure you will, for the devil could not have anything to do with you. I am contain of one blue, however, that if St Peter loss not give you muy will, and the will be a strike organized, and then ---- well, I will not say what vill not say what vill not say what vill any point.

Asico from this pleasantry, I am colimbat to low you are still able to work, can what would not allowed to it we did not have something to consult our minds. You set you have been a consultant our minds. You set you have been a consultant our minds. You set you have been a consultant when the one I said south to have helf of your yould model; lost min ocity yours ago, one of the most fathful, devoted, patient women that over graced this old round to I had plenty to set in the consultant of the plenty to set in her of the most fathful, devoted, patient women that you it is comed that a I had plenty to set I have all the more to look after. By sometin-law is estemains to the overheap, which is now dovoted altogether to making apparatus for the arms and navy, and I can grade to not find to deductional matterner which I with a good comment of the consultant of the con

Just now I am taking great interest in the education of the returned disabled soldiers, particularly in the industrial lines, and elthough I will be seventy-eight years

y.

of age this day, one month honce, I would like to live a few years longer to help these good follows who have done their best to knock he-- out of the Kaiser.

-0-

My only Alma Mater was an old red brick school house, and if it were standing to-day, I could pick out the brick which I leaned against, with my hand on my forehead, and ----! after smoking my first and last eiger.

But this yarn is too long, and I will wind up by tolling you I have become acquainted with Mr. Hitchcock, his good mother, and his splendid wife, who is a sister to your own dear "bost half," and it is a joy to spend a evening with them.

With kindly greetings to Mrs. Edison, and ditto

Mele John Enshear, Mee In Strashear, Whee Int of Inige that detter you mote (0.440) or 7. I smilded take all their got and of the Last diberty from you et!!

NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESIDENT,
PRESIDENT,
WILLIAM L. SAUNDERS,
CHAIRMAN,
SENJAMIN S. THAYER,
WICE GRAIRMAN,
THOMAS ROBINS,
SEGRETARY,

OPPICE OF THE SECRETARY 13 Park Row, New York

Ontober 24. 1918.

To the members of the Haval Consulting Board:-Gentlemen: I enclose herewith lists of the members

and committees of the Heval Consulting Board as of Cotober 19 and 81 respectively. Kindly destroy previous lists.

Very truly yours,

THOMAS ROBERS,

Per S.

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MAVAL CONSULTING BOARD Oct. 1
Sdison; CHAIRMAN, W. L. Saunders;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Oct. 19, 1918.
                                                                                                                                                     Thomas A. Edison;
VICE-CHARMAN, B. B. Theyer; SECRETARY, Thomas Robins.

| MINISTER
| ADDICKS, LAWRENCE, 6 Church St., N. Y. Olty, Tel. Oortland 1540;
| Ros. 518 North Broad St., Elizabeth, N.J., Tel. Elizabeth 5984,
| Ros. 518 North Broad St., Elizabeth, N.J., Tel. Elizabeth 5984,
| Ros. 518 North Broad St., Elizabeth, N.J., Tel. Silzabeth 5984,
| Rose St., Tel. St., Tel
                                                              VICE-CHAIRMAN, B. B. Thayer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SECRETARY, Thomas Robins.
                                                              Vanderbilt 2150.
    Auderbitt 2,150.

HUTCHISON, IR. M. R. J. R. lewelly Park, Grange, N.J. Th. Orange 4710.

HUTCHISON, IR. M. R. J. R. lewelly Park, Grange, N.J. Th. Orange 4710.

LAMER, F. S. S. STREET AND CASE PARKET STATE OF THE STATE ST
Dairy, w. PROFIES, Hear Admiral U.S.Nevy, Nery Department, Teathington, D.G.
MERSHON, R. D., Major U.S.R., 80 Maidon Lane, N.Y.City, Tel.John Gild; Res. 65 West 56 st., N.Y.City, Tel.John Gild; Res. 65 West 56 st., N.Y.City, Tel.John Gild; Res. 65 West 56 st., N.Y.City, Tel.John Gild; Res. 65 West 10 st., Johns Hopking Univ., Baltimore, Miller College Coll
                BABCOCK, A. H., 65 Market St., San Francisco, Cal.
```

#### Oct, 21, 1918.

# PERMANENT COMMITTEES OF THE NAVAL CONSULTING BOARD

AERONAUTICS, INCLUDING AERO MOTORS: AEROHAUTICS, INCLUDING ARRO MUJURO: Operf, Collision, Miles, Riker, Webster.

AIDS TO MAVICATION: Sperry, Chairman; Craven, Hunt, Woodward.

CHEMISTRY: Thitney, Chairman; Addioke, Backeland, Webster, Woodward. TRICITY: Sprague, Chairman; Addicke, Emmet, Lamme, Webeter. AND SANTTATION: Backeland, Chairman; Maxim, Thayer, ELECTRICITY: FOOD AND SANITATION: HILLIEY,
FUEL HANDLING: Miller, Chairman; Addicks, Backeland,
Hunt, Hutchison, Maxim, Robins, Thayer, Webster, Whitney,
INTERNAL COMMUNICATION MOTORS: Riker, Chairman; Coffin, Spery,
HILLER SAYING APPLIANCES:
MIller, Chairman; Hutchison, Maxim, FUEL AND FUEL HANDLING: Robins.
LURGY: Addioke, Lamme, Thayer, Whitney.
LURGY: Sperry, Chairman; Backeland, Hutchicon, METALLURGY: MINES AND TORPEDOES: CPTICAL GLASS: Backcland, Chafrman; Webeter, Whitney, OPDICAL GLASS: Backcland, Maxim, Chairmen; Backcland, Hunt, ORDMANGE AND EXPLOSIVES: Maxim, Chairmen; Backcland, Hunt, ORDMANG. Hutchison, Sprague, Theyor, Mebeter, Mitthey, Woodward. Hutchison; Webster, Chairmen; Addicks, Backcland, Whitney, PHYSICS: Webster, Chairmen; Woodward. PRODUCTION, ORGANIZATION, MANUFACTURE AND STANDARDIZATION: Coffin, Chairman; Addioks, Emmet, Lamme, Robins, Saunders, PUBLIC WORKS, YARDS AND DOCKS: Theyer, Chearman; Addicks, Craven, Hunt, Miller. SHIP CONSTRUCT.OM:
Spream, Chairman; Hunt, Hatchison, Miller, Sperry, Dpream, Addioks, Hunt, Studieson, Sperry, Dpream, Studieson, Whitney, Stram BROINERRING AND SHIP PROFULSION: Hunt, Chairman; Emmat. SUBMARINES: Emmet, Chairman; Hunt, Hutchison, Saunders, Sprague. TRANSPORTATION: Riker, Cheirman; Coffin, Creven, Miller, WINDLESS AND COMMUNICATIONS: Webster, Chairman; Whitney.

October #5,1918

Rear Admiral Geo. E. Burd, United States Havy Yard, New York, N.Y.

My doar Admiral:

I have received your favor of October 24th, and am much obliced to you for your courtesy and prompt attention to the metter of the propellers.

I have something special in mind that I would like to takk to you shout, and can explain it better in person than I could by letter, so I am going to wait until you come over to Drampo to make me that promised call. I hope you may be able to find time in the near future.

Yours sincerely,

October 28,1918.

(Following 'phone in by Mr. W. L. Saunders, this day)
He wanted his Edwin to join in this

We are Republicana loyal to the spirity of the Republican Party, but in this hour we are willing to subordinate our partisan to the demands of the World's needs. We must not have a divided council. It is for us to show the people of the whole World that we stand by the President in his war aim.

The election of a republican Congress will be construed by our enumies and opposed by our friends as a sign of internal division. We must lay aside our political feelings for the moment. America should uphold the President's needs by giving him a Democratic Congress which will apell to the World United America.

The result of the approaching election will be scanned by the German enemy for anything for which it can disquise into a sign for divided support for the President and America. We deem it an honor in this hour of crisis to yote for our Country.

Saunder	
The president has no	
a bad break in my open and I want to keep	יים. ארים!
out of the anarl,	
) 16mg	28/18
Mr. H. os P. W.	

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESIDENT.
WILLIAM L. SAUNDERS.
BENJAMIN B. THAYER,
THOMAS POBINS.
THOMAS POBINS.

OFFICE OF THE SECRETARY 13 Park Row, New York

Oct. 28, 1918.

To the members of the Naval Consulting Board: Dear Sirs:

Owing to the continued prevalence of the Spanish Influenza, the meeting scheduled to be held in Washington this coming Saturday, Novamber 2nd, will be held in New York at the office of the Secretary of the Board on the fifth floor of No. 13 Park Row. As usual the informal meeting will begin at nine o'clock and the formal meeting at ten.

On account of the epidemic, the question of attendance at this meeting is left to the individual discretion of the memb ers of the Board and the officers attached to it, Yours very truly,

THOMAS BOBINS

g.J.

TR/gt

Naval Consulting Board and Related Wartime Research Papers Correspondence November 1918

#### United States Navy Yard, NEW YORK, N. Y.

November 1, 1918.

My dear Mr. Edison:

No.

hand disk which I am soming you the prints of a best which I should either your needs. She is a 50' motor sailer are you will see from the print, her propeller each is short and one he disconnected at the Chapter compling bust under the dendwood where you can take held with your right.

Her number is 1206. The angine is new in her but twill be a small matter for us to take it out if she will suit you. If you will latt me know about this, I will got the Department's permission to take out the engine and turn her over to you.

with kind regards,

Sincerely yours,

SELM

Mr. Thomas A. Edison, c/o Edison Laboratory, Orange, E.J.

The boat is ok. Duconnet Engue from Coupling Then we can feet on Worm plucon, coom of Wolor Tim. Edison hanted a copy today arthi

MEMORANTHIN RELATIVE TO GUARTE SUPERY FOR SUPERSONICS: MISTING

November 1, 1918.

Hatch.

(1). So far no substitute for crystalline quarts has been discovered. Rochelle But Crystals and Toursallane Crystals give the game qualitative results, but Rochelle But Crystals are reconstitutely objectionable and are also objectionable became of their schollity. Tournaling is one of

- (2). Suitable substitutes for quarks could perhaps be developed, but iff other groups of man were assigned to the work of developing runh substitutes, it would probably cause delay in perfecting a practical apparatus, because of the drain which would be just upon the sources of supply of the necessary surpassus, who hampering the work that is already in propress.
- (8). There is now on hand a supply of quarts sufficient for the experimental work now in progress, but there is no quarts on hand for terming out breathest enquarters in quantity entering out breathest entering out breathest (with there is at the present time should, 200 like a sufficient (with of himself as at the present time should, 200 like a sufficient (with of himself as the sufficient of the interest should not be a facilitated States Bay, In addition there is known to be about 6,000 lbs. second grade Breatling pubble in hands of New York.
- (4). The experiments at New Louden ere most promising. A submarine has been located as far sawy as the to a 100 year. This submarine was on the surface between the surface that the surface the surface that the
- (5). He adequate source of domestic quarts has been us yet developed. The following statement has, in substance, been either telegraphed to mailed to

Dr. L. D. Ricketts, Arisona. B. B. Thayer, Y.P., Ansomia Hining Co. J. E. Hayes, Jr., 7-P. Hew Jersey Zino Co. Sidney J. Jemmings, Y.P., U.S.S.R.& M. Co.

Sidney J. Jemings, V.P., U.S.S.R.& M. Oo-Elgar L. Hewhouse, V.P., AdS. & R. Oo-V. R. Ingalls, Editor B. & H. J., New York T. A. Ridard, Editor H. & S. Press, San Francisco.

Allen H. Rogers, Consulting Engineer. Dr. Geo. Otis Smith, Director Geological Survey. Von H. Maming. Director of Bureau of Mines.

From H. Maning, Director of Bursau of Mines.
Dr. G. P. Merrill, National Museum, Vachington.
Dr. G. P. Kanz, Thrifton & Co., Her York City.
Foote Mineral Co., Pailedelphia.

Ward's National Science Establishment, Rochester, H. Y. incricen Gem & Poerl Co., New York City. Adolph Eirsch & Co., New York City.

Weval Gusulting Board desires to obtain groups information reporting available deposits of orgatalline quarts for obtaining the limit uses available deposits of orgatalline quarts for obtaining the limit uses of the property of the property of the limit uses of the limit uses of the limit uses of the limit of the formation of the limit of th

EM/AL

the question because of its rarity.

١.

Replies to date indicate Valaveras County, Cal., and Hot Springs, Ark., as most likely places.

- (6). The normal supply for optical purposes is imported from Brazil, and samples of denostic pebble tested to date have not shown quality qual to the imported article. It may be necessary to fall back upon Brazilian sources and those are also being investigated.
- (7). Brazilian pebble will yield anywhere from 10% to 60% of suitable material. If the crystals be risually salected recovery of suitable material will be greater. As complete specifications as one now be formulated have been obtained from Columbia.
- (8). Hajor Merchon has visited Columbia, Hew London and several gen dealers, including a member of the War Trade Board, and is thoroughly posted researching developments to date.
- (9). Sir Erio Geddes has stated that methods of detection in service at present are inadequate; has urgently called for a new method; has called attention to the fact that the war is not over until it is over.
- (10). Supersonies is fundamentally sound because it does not depend upon factors in control of the enemy. He other promising method is in hand.
- (11). The apparatus has great after war possibilities for preventing collisions in for.
- (12). Quarts has a market value for resale.

(15). The exact amount of quartz required for installations to be made and the net good crystal obtainable from all local stocks commot be stated to-day but will shortly be known. Quartz brings anywhere from 256 to \$2.50 a round, say \$1.00 average.

(14). The following motion is proposed:

The Noval Consulting Board hereby appropriate ten inquested follows to be expended at the discretion of the Onlanmon or had collegate for the programment of send quarts as any prote measurer in his or his delegate's judgment to mice possible a proupe supplication in service of the apparatus which Prof. Pagin is developing for the Special Board of the Newly.

NOV 2.1918 LAWRENCE ADDICKS

Rear Admiral Geo. E. Burd, United States Navy Yard, New York, M.Y.

My dear Admiral: .

Let me thank you for your letter of November 1st, and the blue print of the boat therein enclosed.

This best is all right for my purpose and I would sex that you disconnect the engine from the coupling. Then we can put on the worm pinion, the worm and the motor.

· Shall I keep the blue print or return it? With kind regards, I remain,

Yours sincerely,

1/5907.

Novomber 5,1918.

Ford Motor Company,

Long Island City, N.Y.

Dear Mr. Plantiff: Atten: Mr. Plantiff:

the smalless bill for one chassis, which was smalless to life for chassis, which was smallest tir. Edison by order of Hr. Ford lest June. It was originally intended by Hr. Ford that there should be no charge to Hr. Zaison for this, as her with the make some superiments with it is commention with war

Hr. Mison wants me to my that im smuch as Hr. Ford went into the samufacture of small tarks, he. Hr. Edison, would not commerce any experiments on this line. He, therefore, wants to return the Observation of the your Company. It was not been condition as whom we recoived it is in according to the condition of the condition as whom we recoived it.

Hr. Edison would like to return the Chassis, but we are very chert of one and hare no one at present by whom we could send it. Can you send one of your men over to drive this Chassis book to your Lord island City plant? It so, I shall be collined if you will kindly call me up on the phone and could will kindly call men. You had be not to the hims a letter authorizing him to record that a chart we are daily thoring it tooks right party.

When the Chassis is roturned to your Works, I presume the enclosed bill will be cancelled, except the items of gas and cil.

With kind rogards, I remain,

Yours vory truly,

Assistant to Ur. Edison.

WESTERN UNION RECEIVED AT CRAIGE, IL. J. 195NYGC 25 GQVEPHONE ORANGE 4361

THOMAS A EDISON

ORANGE NJ HAVE TODAY AUTHORIZED ADMIRAL BURD TO LOAN YOU BOAT AS REG

AND AID YOU IN EVERY WAY POSSIBLE

JOSEPHUS DANIELS

IN REPLY ADDRESS
THE SECRETARY OF THE NAVY
AND REPER TO NO.

26840 WSS MZ

#### NAVY DEPARTMENT

WASHINGTON

November 6, 1918.

My dear Mr. Meadowcroft:

I am enclosing you a copy of a letter signed by the Secretary to Mr.Edison in regard to his experiments on torpedo listening device and kite radder.

The Secretary has been extremely busy the last two or three weeks and I laid before him all the data necessary for his information, and prepared the letter this morning, which has been approved and signed by him.

You will note in the letter that orders will be given to the Bureau of Construction and Repair for the necessary instructions to be given to the New York Navy Yard for the manufacture of the sea anchors.

and instructions ready for the New York Yard as the submarine will have to make many changes in her torped ot these and I would like to know about how long it will take Mr.Edison to make his preparations.

In Mr. Edison's letter to me he stated that practically all he needed was authorization. I have endeavored to find a merchant ship upon which he could install his listening device but could not find one as the Mavy Department does not control coasting vessels.

The Marada is a large sea-going yaoht and she could be sent to Hobbean at almost any time Mr. Edison desires and when the experiment is ready I will come up and go over all the pre-limitarys and see that no hitch is encountered and that the experiments will show all that is desired and full data taken.

I have had considerable experience in arranging for trials and have found that unless a very careful pre-arrangement is made there is always some loose link that invallates the whole work dome.

IN REPLY ADDRESS
THE SECRETARY OF THE NAVY
AND REFER TO NO.

# NAVY DEPARTMENT WASHINGTON

I am directed by the Secretary to keep in personal touch with this trial and will you please use long distance telephone, telegraph and letters so that I am kept in close touch with it.

Hoping this will be entirely satisfactory to Mr. Edison I am with kindest regards,

Sincerely yours,

Thola punt

Mr. William H. Meadowcroft, The Edison Laboratory, Orange, New Jersey. THE SECRETARY OF THE NAVY

# NAVY DEPARTMENT WASHINGTON

WSS:MW

November 6, 1918.

My dear Mr. Edison:

I hope you will pardon my seeming neglect for the past two weeks, but as you know I have been extremely busy and away from Washington part of the time.

On my return I have taken up all the prepared data on your idea of avoiding torpede attack by the use of sea anchors and a listening davice for torpedoes. I find that it is extremely difficult to obtain the services of a cargo boat, but if you can do se and will. lot se know what steps it is measured by the contract of the contract

The modern submarine is not fitted for firing the Whitehead torpedo, but with slight changes can be made to accommodate this weapon. The services of the Merada, a large sea-going yacht can be obtained much quicker than a carge boat and she could be sent puch nearer your laboratory for the purpose of fitting the listening device than a vessel engaged in treffic along the coest.

I presume you will make a listening device in your laboratory and desire the one amonors and necessary rope to be furnised from the fork Hawy Yard. I have directed from the foot with the forth and Repair to issue the necessary orders for this. Will you please let me know what I can de further in this matter.

Thos. A. Edison, Esq., West Orange, H. J. Sincerely yours,

November 7,1918.

Rear Admiral G. E. Burd. New York Navy Yard. New York, N.Y.

My dear Admiral:

Thie will introduce to you Er.

Henry G. Wolfe, whom Er. Edison is sending over
to see you about the small boat as to which you
telephoned this morning. Mr. Wolfe will explain
Er. Edison's wishes.

Yours very truly,

Assistant to Mr. Edison.

4/5926

# NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
WILLIAM L. SAUNDERS,
GHARMAN,
BENJAMIN B. THAYER,
WICE CHARMAN
THOMAS ROBINS,
ECCHETARY,

OFFICE OF THE SECRETARY
13 PARK ROW, NEW YORK

Nov. 7, 1918.

To the members of the Naval Consulting Board:

Dear Sirs:

The next meeting of the Naval Conculting Board will be held on Saturday, November 16, 1918, at the Board's offices in the Navy Department, Washington, D.O.

As usual, the informal meeting will begin at nine o'clock and the formal meeting at ten.

Very truly yours,

THOMAS ROBINS

Les allaction

or the dubunum as now arranged of the track.

(harry's recessory)

2

Nov. 8,1918

W Edison;

I blephoned to the Commandant office, Newport Jorgedo Clahon, and asked if the Whitchead Torpedoes they have in slock can be launched from I any of their submanines. The Office who septiced said they could be launched from the submanines they have up that, without change - and that Bliss torpedoes could also be farmeded from the same as tomorems without change. I asked him twice to timbe

Dure, and the game the Dame answer each time.

He said the Military to the Military of the Mil

Mov. 9, 1918

Mo Edwar:

De called up the Bliss

le in Brooklyn to ask if

they could launch them old

otyle Whilehead Leopedeer from

their beat of Soy Healer

Jana M. Stimmer said

the thought they could fine

the male I style, but could

not say definitely the said

we would have to write to

Commondant 3. L. Sawyer

Name Bus Toopedon of Ordnawe, at

the Bliss Norther 53° 51 am 3 ms

the Bliss Norther Macooward,

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
FRESIDENT.
VILLIAM L. SAUNDERB.
GHANAM.
BENJAMIN D. THAYER.
THOMAS ROBINS.
SECRETARY.

OPPICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Nov. 11, 1918.

The Chairman requests me to issue the following notice:-

TO THE CHAIRMEN OF ALL GENERAL AND SPECIAL COMMITTEES OF THE NAVAL CONSULTING BOARD:

Dear Sirst

In view of the ending of the Mar, the question of furthes exponditure in the work you may be done should come up and be decided at the meeting at Washington next Saturday, November 16th. In the meantime please use your judgment as to the wisdom of continuing expenditure.

W. L. Saunders

It is hoped that every me maker of the Board will be present at Saturday's meeting.

Yours very truly,

Thomas Robins,

Secretary,

#### PERSONAL AND CONFIDENTIAL:

Hon. Josephus Daniels, The Secretary of the Havy, Washington, D. C.

My dear Mr. Daniels:

of the 6th instant, saying that it is extremely difficult to got a cargo boat with which to try the torpido experiment, also that considerable changes will have to be hade in the torpedo tube to fire a whitehead torpedo.

Let me say that this is another characteristic sample of the misinformation furnished you by Department chiefs. I wes informed and found out myself at Hemport that any submarine they had there can fire a Whitchead torped without any change.

To make sure, I set Newport on the telephone after receiving your letter, and had this corroborated. They positively asserted that no charge would be necessary. It would be stange if it were not so, as the Government has a large stock of thichead torpedos in addition to the Bliss type, I am told.

Regarding obtaining a cargo boat, I have already stated that I could use any coastwise cargo but without delaying the boat. Lat me say in addition, that in the yards around New York and vicinity, there is turned out very day a cargo boat. All these boats have to avery day a cargo boat. All these boats have to be overy out my experiments. I have now waited eight months to get trials of see annohors, etc., and I am efraid if Smith is to have charge it will be six months more.

If you will authorize the Brooklyn Eavy Yard to make the sea anchors and small mast for holding the listener on the bow of the boat, I will go ahead as I think I can get a cargo boat myself from the menufacturers before they are turned over to the Government.

---

As the War is over, this device will be unnecessary to save cargo beets, but I think it will be of great value for satling in fogs and preventing collisions. If you want me to go sheed, I will sak Admir not to make the camel mark. He will probably refer or to you, and if you will feel like authorizing it say where unthorized the annhors, I will go sheed and put it on a cargo beat.

Yours sincerely,

4/5949.

Dersonal : yours of the 6th saying that it is extremily different to extremily different to the form that to have the saying also that Considerable Champes with translate the translate the translate of the work of the translate of the saying and that the saying that they are considered to the saying that they are considered to the saying that they are considered that we say that they are considered that we say the saying that we say the saying the saying that we say the saying that any submarine without

any change whatever Can fire a whitehead loopedo, To make were I got Keroport on phrase after successery your letter of had this constanted they positively assent that is chackege wriceau It would be strunge if it were not so as government has a lig a Cock of Whitehards Coats, I have already

stated that I could use any Coast wive Cargo God wethout any delaying of the koat, det nie en in addition that there wa Cango local Twines out roady day in yods aracines My Vacanty that has toll have trial tips which I could go on - I have now

waited 8 months to get brials auchais Ela + cf South is to have charge I will let 6 months If you will authorize Okton Navy Haved to neight the Jaca anchors and small most for balding tistener in bow, I will go ahoud as I can get a Cargo boat from Manufactures

before they are Twinsd over to the government while at present there wof Little Valera to the device or saving Cargo Earlo It will I think be af great Value for sailing in fogs & percounting Calleving If you went me to go alread Tweele cisk Capt Town to weake The small weart, To be loce sufer it to you a figur he you how & the / cela Core I will go alway + put t

H

#### Captain Harris:

We have made arronzements to use the book of Tomkins Bros. their business is Mason's materials. Captain Harris is to tow this motor boat from the Hary Yard to Tomkins Bros. Dock in Newark. The Number of the Boat is 1205. Tomkins Bros. Dock in Newark is next to the Standard Oil Company's Dock, which is opposite the Lincoleum Dock which is nour the Erie 3.3.3ridge.

Mr. Edison has the permission of Tomkins Bros. to dock that motor bost, which we understand is at the Navy Yard. Get in touch with Admiral Burd or his Assistant Lieut. Dempsey.

2-2 / = Jourleins Bors. Nov. Engleyer

Phone a Capit Harris 10:20 Q. In. "/14/18" aside level 10:00 for million for the 10:00 for million for m

# DERIVER - HARREN COMPANY

ELECTRICAL RESISTANCE WIRES SPECIAL ALLOYS AND PURE METALS

FOR ELECTRICAL HECHANICAL AND CHEMICAL USE IN THE FORM OF WIRE-SHEET- STRIP-STRAND-CASTING

NICHROME CASTINGS
COLD ROLLED STRIP STEEL
WIRE ROPE
FLEXIBLE HEATER CORD
SS-BRONZE-MONEL METAL WIRES
PURE SHEET NICKEL

.---- --

Sales Dept.

IHAHRIRUSON, No. J.

Bowamber 14, 1018.

Thomas A. Edison Laboratories, Orange, S. J.

Gentleman:-

Att. Mr. V .. H. Headowcroft.

With reference to your letter dated October 25th and your order #555370, epocifying Hard Hichrome Wire and Hard Hichrome Wire Cloth, would advise that we could furnish you with hard Hichrone Wire, but could not furnish you with hard Hichrone Wire Cloth, material which we furnish being the ordinary run of stock, running about the sume hardness as the sample which we are enclosing.

Will you kindly let us have your authority to furnish our regular Nichroms Stock on your order.

LVP:LDG

5991

Harrison 3900 my Edison Peter Cooper Hoult is in The milet of our supported Winters 20 to 100 feet 0) #30 or any 5130 to #36 13+5 (inclusion) of apparatus exit and need's cultum wire & wire some made !! high transfer store + 30-36 duin Hard, High Temperatur as bou list artached. Dlu Brin Hamis Win Co make it has the dress raum 1 Sq foot or less of Time well sumple to be able to por to from Them, " Story are up the 1/8° Mish any 1/10° mish Wiri Jawge , # 30 to 36 wire of High Temperatur , had win Coperate or Sistemman's rations It's rolerd me if June of try Lozel at for him and Deting In Resistance purposes The fire would so dec it they de miet Januar tripie

# WESTERN UNION

Porm 2539 J

EORGE W. E. ATKINS, VICE-PRES	DENT NEWS	OMB CARLTON, PRESIDENT	BELVIDERE BROOKS	, VICE-PRESIDENT
RECEIVER'S No.	TIME PILEO	CHECK		
SEND the following Day Lette on book hereof, which are i	r, subject to the terms nereby agreed to	Movember	15,1918.	191
ΓoThos.	A. Edison.			
	Orange,	N. J		
		I have telegra	phed Admiral Burd	
to fu	mish you what	you desire wit	h reference to the	
experi	ment.			
			JOSEPHUS DANIELS	
				-
	-30-			
		,		

November 15,1918.

Dr. Peter Cooper Hewitt, 18 East 33d Street, Dear Dr. Hewitt: New York, N.Y.

I telephoned and wrote to the Driver
Harrie people ordering the wire that you wented and also
the wire cloth, and have just received the enclosed
letter and sample from them. Will you please let
me know what to eay.

Youre very truly,

Assistant to Mr. Edison.

Enclosuree - 2

November 16, 1918.

Rear Admiral Roger Welles, Director, Office of Naval Intelligence, Washington, D. C.

Dear Sir:-

In June, 1917, your office assigned Mr. Charles B. Hanford, Chief Ysoman, U.S.N.R.F., as a Personal Guard to me during the period of the war.

In view of recent developments and the present status, I presume you will desire to recall him.

of the courtesy extended by your office in plucing at my disposel the services of Er. Henford and the protection efforded by hie continuous processes with me for so long a time.

Let me say also, as concerning Mr. Hanford, that I have come to entertein a high regard for him. He is a man or lleading nearonality tactful and possessed of good common sense. He here the ded a vory intelligent common sense. He here the ded a vory intelligent common sense, He here the term of the here the here the term of the term of the here the here the here the here the here the here the developed of the Government. I venture to express the hope that on his recell he may be given an opportunity to sake his workt to the Country.

Yours very truly,

PETER COOPER HEWITT IN EAST 330 STREET

TELEPHONE VANDERDILT DIS

Hovember 18th, 1914.

Mr. Ma. M. Lendoweruft,

Laboratory of Thomas A. Edison,

Orange, E. J.

Dear Mr. Meadowcroft:-

I wish to thank you for helping me get some wire. The wire suggested by the Driver-Harris Congrany will probably suit my purpose better then the gause. I would like to have it. I would like the wire .005" in dismetor, or as near that size as I can get it. It is for an experiment and one-half pound will be satisfactory, although I could do with less.

Mindly give my regards to Mr. Edison. I enclose Test No. 35 and also memorande concerning it, as I promisod to send it to him. also Helespter report.

Poly Copper Heurist

Helicopter N

Test Ho.35

Blade set at 12° angle.(Crem.)

15° N mmer end ide thank the per sec.

Horse Lbs. Lift at 20 ft.
power per H.P. radius

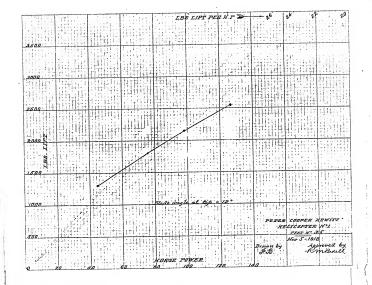
44.4 29.3 97.5

Hewitt

R.P.U.	lbs.	power	per H.P.	radius
46.5	1300	44.4	29.3	97.5
56.5	1800	75.4	23.9	118.3
63.	2150	98.4	21.8	132.
70.	2550	126.5	20.2	146.5
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ham of property 51ft. Bladen 11 ft. 7" by 2/t-6"

See page 7



### PRIVATE.

Statement sent to Major William J. Hammer, U. S. A... Representing Inventions Section, Jar Fluns Division, General Staff, Army Jar College, who witnessed Helicopter test November 1st, 1916.

Confidential
To Thom. N Edian COPY

METILOPER

HELICOPER

November 5th, 1918.

The fundamental object of the helicopter is to obtain a lift more than equal to the entire weight of the mechine. That is, to obtain an upward pull by means of dynamic action of propellers greater than the total weight of the machine including motors, fuel and load so that the machine will be forced upward and lifted into the air.

The helicopter that I have designed, hereafter called Helicopter No. 1, has propellers of large diameter adapted to act upon a large mass of air, and the blades are designed to approximate the action of aeroplane wings to obtain the advantage of their lift.

In earlier considerations of this problem it was thought possible to accomplish ascension by the simple reaction resulting from the downward acceleration of the mace of air acted aron by the propellor.

The laws relating to reaction due to acceleration of a fluid (air) are perfectly underetood and exact calculation can be made for obtaining the required lift for any specific weight of machine. The conditions being that the dynamic reaction in pounds obtained per horse-power multiplied by the available horse-power must exceed the total weight of the machine and motor in order that the machine may rise from the ground.

The laws of momentum and consideration of resulting dis-

tribution of energy due to the thing of the propeller munt be taken into account. This requires a coreful determination of the size of the propeller used, and it must be so chosen that the weight of air acted upon per second and the velocity imparted to the sir will give the desired thrust or pull, lift per horse-power being proportional to the size.

It appears that up to the present it has been considered very important to have a very light machine and very light motors. This is not necessary as the lift obtainable ith a motor. that is the lift per horse-power, is proportional to the quantity of air handled or proportional to the size of the propeller used. Heretofore the propellers used appear to me to have been too small indiameter for the horse-power designed for their oneration. Recent dynamic research has brought forward new and most important discoveries whereby great advantages have been obtained by the form of lifting surfaces used. The investigation of supporting surfaces for aeroplanes has developed planes where the lift obtained from the upper and lower surfaces of the plane are not the same, that obtained from the upper surface being much greater than that obtained from the lower surf oc. The reculting total lift is much greater per horse-power than was formerly considered as possible by simple dynamic action.

In order to avail of the advantages of these discoveries and amply them in a helicopter it is necessary to know how the conditions of lift are affected when a plane is rotated as the blade of a propeller and when the plane is noting as a propeller blade to obtain results as advantageous as those obtained

### COPY

by an aeroplane wing. It is also very important to know how these results are modified and influenced by the diameter of the propeller, the size of the propeller blade, the speed of revolution of the propeller and the relation of the size of the propeller to the horse-power 'ith which it is drivon.

Welloupter No. 1, in designed so that it might be operated to furnish practical data relative to these various problems and enable their relation of disaster to lift per horse-power and enable their relation of disaster to lift per horse-power for the horse-power used. It is designed to be operated with 20 horse-power at 100 revolutions and mustain a lift of 4000 pounds and withstand the unequal strains due to buffether of the cir. It is built entirely of steel except the ribs of the propeller bindes and the blade covering which are of sheet aluminum. The design, size, material of construction and strength are such as to save as a guide for estimating the necessary weight of the whole and the various parts in future designs and suggest desirable medification of design.

The experimental data furnished be t ets of Helicopter No. 1 show that the careplane wing lifts are obtained, and that the lift per horse-power for a given dismeter is in excess of that formerly thought nossible to be obtained by simple dynamic reaction.

Although for various reasons it has as yet only been operated with about six-tenths of the horse-power for which it was designed it has given a lift more than its own weight and the wei-th of standard motors of this horse-power and a nurnius

of more than the weight of a man and fuel (see application of tasts).

Helicopter No. 1 consists of two propellers, one above the other, each 51 feet in diameter, one being right hand, the other left, retating in expected directions in operation. The power transmission shafts are concentric and driven by two motors whereby the torque is transmitted without load on the bearings or working stream transmitted through the frame.

In operation there is but little if any tendency of the motive power support to rotate, balance of the propeller torque being more easily obtained then was expected.

The propollers are designed so that the centre of aumort of the blade is forward of the centre of lift in order to remote smooth action and avoid chattering (the practical working is perfect). This gives a small toruional moment to the tube which acts as the compression member or arm of the propeller which is hell at the hub. This tube runs through the blades to which they are fastened. The operation of the propellers is most satisfactory.

The shade of the propeller blade is that of Eiffel wing No. 53. This wing was calcoted because of the exhaustive treatment of it in "Nouvelles Recherches sur la Resistance de L'Air et L'Aristion, Faitos au Laboratoire D'Auteul", which was thought might prove useful in once of comentricities being observed during the tente and would enable modification to be intelligently made. Wing No. 58 has only 765 the efficiency of wins No. 32 which I howe to substitute for it and obtain

25% advantage in lift. COPY

In a test, the blade being set at an angle of 12° at the circumforence, gave in operation at various speads a lift fairly accurately corresponding to the lift such a blade should give if octing as the wing of an aeroplane, set at about 6°, demonstrating the faithfulkens of the action of the blade and also giving very valuable date for consideration respecting its action in this connection and surgesting the great importance of further investigation. This spearest angular loss of power will become, in my opinion, useful power for movement when the machine is not stationary, and during the tests a side wind caused the machine to develope great additional life.

Halicopter No. 1 weighs about 1500 pounds and has an excess weight of more than 300 pounds which is cauchle of being removed. This excess weight is due to not being able to obtain standard thating of satisable sine at the time of construction. Standard Hesm-Bright bull bearings are used throughout and are entirely out of proportion to the work required of them. Suitable gear were not obtainable, so a make-chift set was installed to save time. Suitable gears would have been easily obtained in or-dinery times.

The machine set up for testing is mounted on a platform together with its motors which stand on a scales, the platform resting on a small ball thrust bearing which is between it and the scales so that the machine is free to rotate. This enables measuring any inequality of torque of the propellors and any tendency of the motors to rotate. The balance is so perfect

### COPY

that the whole may be turned with one finger.

The total weight of machine and metere before starting the test is taken, being about 9000 pounds, which is read on a dial of the scales graduated to 10 pounds and can be read accurately to 5 pounds. During the test the original weight is reduced by the amount of the lift obtained which the scales continually registers and is shown by the dial. As more power is used and the lift becomes greater, the scales register less weight. The machine during the tests is operated by collibrated electric meters for accurately obtaining momentary power reading.

I enclose tests, 21 - (25-19) - (26-24) - 28 - 31 - 38 - 35, which explain themselves, a number of small photographs of the mechine as operated, and curve sheets indicative of the relations of disseter of propeller and lift per horse-power for various horse-power smployed.

Note: - I believe I have already given you conies of the curve sheets above referred to, therefore they are omitted.

### COPY

### Approximate Summary of Helicopter No. 1, Operated With Casoline Motors.

north of refresher not a treatment of the bounds
Two Gnome motors, weight %6 kilos each 423 "
Addition to frame 100 "
Total weight 2,023 "
Lift (Test No. 35) with 126 horse-power 2,550 "
Excess lift (for fuel tank and man) 477 "
Being excess lift per horse-power 3.77"
<del></del>
Removing 300 pounds excess weight from machine, weight 1,200 pofinds
Substituting wing No. 32 for wing No. 63,
No. 63 being only 75% efficiency of
wing No. 32, modified machine lift 3,000 pounds
Machine weight 1,200
Motors 423
Addition to frame 100 1,723 "
Excess lift 1,367 "
Lift per horso-power in evoess of weight 10.8 "
Much better results will be obtained with the use of

...

more horse-nower.

### COPY

The peripheral speed of the propeller blades (nt 2,500 pounds lift and r.p.m. 70) is 167 feet per second or 11,220 per minutes, and the mean average blade speed (nt 20 feet radius) 146.5 feet per second or 8,800 feet ner manute, which should give a possible horisontal movement of about 4,400 feet per minute or, say, 40 to 50 miles per hour. By using smaller blades or smaller blode engle, higher peripheral speeds may be used and higher lateral speed obtained.

Substituting wing No. 32 for wing No. 65, greater peripheral speeds can be used which, under substantially the same conditions, will give greater speed of lateral flight.

There is no doubt, from the tests of Helicopter No. 1, that the helico-ter provides a very valuable and useful means of nurigating the air. It pessesses advantages over the aeroplane, a summary of which, made by Professor Crooker, I spoles.

I have demonstrated technically the success of the ablicopter by private enterprise to a noint where ite further development requires the support of the Covernment.

Most respectfully,

### United States Navy Yard, NEW YORK, N. Y.

From: Industrial Manager Thos. A. Edison, Esq., Orangs, N.J. 1107 18 1918

hazam Subject: Manufacture of Ssa Anchors. (H.D.#12525-18, 11/22-GWS).

Reference: (a) Bu. C&R let. of 11/13/18, #16500-1017.

1. Authority has been received from the Navy Dept. to supply the necessary material and labor to manufacture certain sea anchors for your use.

2. Please furnish the necessary sketches, or detailed instructions for the preparation of this material.

MM G.E. BURD.

g ashes angle our to take sample and substitute our substitute of the sample of the sa

#### PETER COOPER HEWITT 18 EAST 330 STREET NEW YORK, N. Y.

VANDERBILT OF

Hovember 20th, 19:8.

Fr. Ja. H. Headowereft,

Laboratory of Thomas A. Edison,

Crange, H. J.

Lear Nr. Headoweroft:-

I have received your letter of November 19th and I return herewith the Briver-Warris letter.

We had a very muccessful test of the helicofter yesterday but it was just so well that it. Added was not there as it was very cold and windy under the tracking. Yesy truly yours,

Late ( of payort

F. S. If I could not u sample (a square foot, any) of their wire gause as well as the wire, I would like it very much. U. S. S. "SACHE." J. P: 192 mavy Yerl, hew York, H.Y. Nov. 21st 1918.

Lieut. J. J. Harris, USKEF. From: r. Thos. a. idison. 2o:

Subject: Recommendation for gromotion.

My dear ar. Edison:

in the line, of several your whiteen have been a good many promotions, in the line, of several your whiteers, of my or mainstion, have received their promotion through recommending Officers asserted, in order to receive, superstinoid the several temperature of the past six months.

I have been under no direct ordors of any Mayal or anization since being ordered to command under your raval organization since weing ordered to commind under y orders, and I would sincerely appreciate it, if in your proposed or the proposition your recommendation for promotion to Lieutenant-Jommander; U. J. H. H. F.

Havay & Karris.

#### USS Sachem.S.P.192. New York. N.Y. November, 23rd.1918.

Ly Dear Lr. Meadowcroft:-In accordance with our telephone conversation today relative arrecomendation from hr. Salan for my premotion to Lieut. Commander UCRE. I submit the following draft, and you add what ever hr. Edhson thinks he cares to say about my ability etc. I assure you this is the hardest job I ever tackled, but anyway here goes.

From: > Thomas A.Edison. To : The Secretary of The Havy Ravy Department & Shington D.C.

Subject: ) Warren Stone Marris. Lieutenant USBAF, promotion, recomend-

1. In view of my observations of the above named Officer, who has been operations under my orders since January, 1918, I = meraby has onen operation; under my orders since emmany, FIG. 1 = mark hereby recommend him for presention to Jent Flancher [1.4] = 1. Turties? 2. I further? The mark to state that HIMI light her ris has HIMI diagonity performed all duties required the same that the con-ception of the company of collision mats, and Shave found HAM water my orders likeling devices,

2. (

insert

anything Mr. Sdison Jares ).

Signed Thomas ... dison.

I sincerely hope that Lr. Edison wont taink I am stuck on myself, I sincerely hope that Lr. slish to the anst gracious favor I am and thanking you in advance for this most gracious favor I am Gratefully.

3. In the course of my coprimental works with which Lieut. Harris has been associated I have found him highly wilettigant, energetic and resourceful, and and glad to have an experiencity of making a recommendation Respectfully

True 100

TOTAL OF FEBRUARY

TOT

128 NY R 26 GOVT

ABERDEEN PROVING GROUNDS ABERDEEN MD 1155AM NOV 23

EDISON LABORATORY

WESTORANGE NJ

ONE FIVE FIVE MILLIMETER HOWITZER MODEL ONE NIME ONE EIGHT HAS FOUR EIGHT GROOVES IN RIFLING

PHELLIPS SEVEN NINE NAUGHT FIVE ABERDEEN
1250PM PROVING GROUND

TELEPHONE TO MANAGEMENT BY Lag. AT Lasty.

DISPOSITION

November 25,1918.

From: Thomas A. Edison, Orange, H. J.

To: The Secretary of the Nevy, Washington, D.C.

Subject: Warren Stone Harris, Lieutenant USNRF, promotion, recommendation of.

- In view of my observations of the above-named Officer, who has been operating under my orders since January, 1918.
   I hereby recommend him for promotion to Lieut. Commander, nextsp.
- 2. I further desire to state that Lieux Herris has dall-gently performed all duties required a sessit in my work in corrying out my expensions. It is tenting devices, see in corrying out my expension, and I latening devices, see the correction of the correction of the correction of the correction of the corrections of the correction of the correctio
- 3. In the course of that part of my experimental work with which Lieut. Herris has been associated. I have found him highly intelligent, emergetic and resourceful, and I am slad to have an opportunity of making a recommendation in his behalf.

Respectfully,

(signed) Thos. A. Edison.

Terry, Plaint Hopes

NAVY DEPARTMENT (BUREAU OF SUPPLIES AND ACCOUNTS)

Washington, D. C.

27 November 1918.

mess

Er. Thomas A. Edison, Ft. Myers, Fla.

My dear mr. Edison:

I am enclosing herewith advance cony of the text of my annual report for 1918 which is due for release 14 December 1918.

while it is somewhat lengthy, I hope that at some convenient time you may look it over as I believe it contains a great deal of information of income and value. At any rate, to supply corpus of the NAVY year of the Anguarters what for the bureau of supplies and Ancounts of which I have the great good fortune to be the head.

With kindest regards, I am

Faithfully yours

man

Capt Harris

Lost complaints from the boys

that you lack itelered a they get

no real looperation from you

Why is it you have to declive for

Coal when you had preciously

Coaled a Short time through

made small milage since,

He says the complaint is without foundation, and will come over and see you ternance morning. Manh to talk to you in private some Meadowcroff.

### NAVY DEPARTMENT

OFFICE OF NAVAL INTELLIGENCE WASHINGTON

November 29, 1918

There is not a start of the sta

Mr. Thomas A. Edison, Orange, New Jersey.

Dear Sir:-

As our Branch Office in New As our Hranch Uffice in New York is cloning, as of December 1st, I take pleasure in expressing my thanks, and that of the Office of Naval Intelligence, to you for your valuable help and op-operation as a Voluntary Aide to the New York Branch, the success of to the New MOPK Brands, the success of which, I realize, has been groatly enhanced by your action in placing at its disposal your time and experience.

Again thanking you for your putriotic and unselfish assistance.

Yours very truly, Poor Welles

Rear-Mamiral, U.S.N., Director of Naval Intelligence.

Naval Consulting Board and Related Wartime Research Papers Correspondence December 1918

December 2,1918.

Friend McGowan:

Your Annual Report was received and read with much interest.

Many, you are the only men who has easie good, or that took the slightest pride in improving the lawy not the slightest pride in improving the lawy not the slightest pride in the proving the lawy not the slightest pride in the slightest pride in the slight slig

They turned down every project and went out of their way to do so. No one would do a thing to help, except Daniels and he is powerless to get anything done if the Department heads disagree.

I must say the Mavy boye are fine fellows and one cannot help liking them, but why they act the way they do is a mystery to me.

I hope you are in good health and will get full public recognition for what you have done.

Sincerely yours.

Rear Admiral Samuel McGowan, Paymaster General, U.S.Ravy, Washington, D.C.

Chemica you were the only man who has made good or that look the olightest pride in impressing the or had any onap - I supposed the openion is unjust, but all ump, doing many things quick great Euthneurs, etc ou have learn doing since warx that I have no Dersonalles I have meet The Navy They all appeared to breast the way

as a disturbance of their left routine, appeared or acted wide in the navy or to accomplish things that would add to the newy occasionx They twenteddown Every project a went out of Chair way to do sax no one would do a Thing to Lelp, Except Daniels + he is powerlass to get augling done of the Dest heads follows of our count help leking Them, but cole is a mysling to me

The proper will and the will ext public recognition for what you have done xe y welves you will you have done xe you will be the your will be	sitely
	1
and the Company of th	
The second secon	
The second secon	-

### THE SECRETARY OF THE NAVY. WASHINGTON.

December 5, 1918.

My dear Mr. Edison:-

I have your esteemed favor and note with pleasure the high terms in which you speak of Lieut. Warren Stone Harris, and recommend his promotion. I will take this matter up and I need not tell you I will be happy if your recommendation can be carried out.

I wish you to know of my deep sense of appreciation of your devotion to the Navy and to the cause of your country in this great war, and for your wisdom and wise counsel.

Always with sentiments of esteem and high regard, I am.

Sincerely yours,

Mr. Thos. A. Edison, Orange, New Jersey.

December 6,1918.

Rear Admiral Geo. E. Burd, Navy Yard, Brooklyn, N.Y.

My dear Admiral:

I sm sending, herewith, blue prints of a holder for my listening device for Submarines, which you kindly offered to have made at the Mavy Yard.

You will doubtless remember that I sent Mr. Henry G. Wolfe to see you about this when he went to the Yerd to fix up that small motor beat. Mr. Wolfe is one of the employees of the Sew York Edison Company. They lossed him to me for the duration of the Wer, and he is now about to return to the New York Edison Co. at 15th Street and Irving Place.

He understonds my plans about the listening davice, and a pribase you will not object to him dropping into the Yard every day or two to supervice the mexime of the holder, shown by the blue prints. If you will, therefore, drop him a note when the work is etarted, he will drop in consciounly and watch the progress.

Yours very truly,

## Dec. 6th 1918. File World

The T.N.T - Oleum Shells (20) are in two wooden box in Vault No 8 also some granutative THIT for toughing around the cops are in can near the toxed. The Cops (fulusuote) are in Surace package in Vaulx # 9. The fuces (time) are in Vault on dokesiele av. see Josk Francis. The amountion for Wood gun is in baulx #8-The Moch gun is in hall near block Shop-1ston-The 3" your is in los near pumping Station Mornstown. Chamiles name is matter or H.G. Coolfe ( With)

Sulphure anyoned authorized of the shall cases of butters in ward. 4 Good containing in Hace running to marchine shop.

os Jachem 5,2,122. Tew York, 17,200 anher oth 1918. File Harving

From : Lieut. Erren .. Harris. : ir. Phomas A. Edison. Orange. .....

Subject : Arrangement for listening device, installation on vescels.

Enclosures. One. ( brawing of arrangement of installation. )

My Dear Mr.Edison.

1. I am enclosin, a drawin; of an idea of mine relative to the installation of your apparratus - on vessels that will overcome various conditions that seem to be giving considerable trouble, in producing noises, from the water line of your present arran jement, and also the various shipe noises.

- 2. First I will ask you to take this from me as an interested, party, and part of my idea is based solvely from the bint of view of a seamen, and of some experiences connected with submarine bell devices on different unips of the Fary and after following care-fully your different experiments a board the Repose and The Jachem.
- 5. Ly idea is that to accomplish your aims i;c; jet ing away from water line noises, which on the present arms member varies according to the pitching of the vessel, and eliminating all noise that is caused by the bow wave and the various noise produced by the ship itself, is to have this arrengement below the ships water line which while underway would get away from all surface noises, xn the miles underway would get easy from all surface noises, and onser by the bow ways, and other rolling tabers, and also eliminate all chances of the apparatus becoming disabled by conding in contact tith fee or other obstructions that all chings are subject to emcounter underway, and by execut insulation oversome all of the noises from the vessel itself.

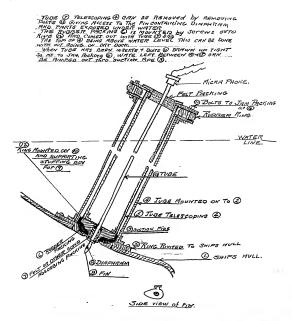
4. I would install this on both sides of the bow, and run the 4. I would install him on both sides of the bow, and run the tubes up to the fore sent where a listening chamber could be installed which to all make everything sound proof, and the only noise that would noticeable would be the water easing the district make which you are bound to have no matter how it is rigged, the same stream if owns being used in the outrig so or fin.

Stream if one being used in the outrig so or fin.

The arrangement is also capable of being regarded without the yangel voice with dock help's andly disashind a wearned the

the vessel going into dook being easily disembled by removing the tube bringing up the diafram with it into the hull of the ship. this arrangement of course is based on permanent construction, the war being over, and no desire to save time by putting the divice aboard the ship in the present rig to save putting the ship in a dock for the first installation. I will appreciate your advice in the matter, and would appreciate a blue print of the enclosed drawing.

Very respectfully,



## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PRESIDENT.
WILLIAM L. SAUNDERS,
CHANNAM.
BENJAMIN B. THAYER,
VICE CHANNAM.
THOMAS ROBINS.

OFFICE OF THE SECRETARY 13 PARK ROW, NEW YORK

Dec. 6, 1918.

To the members of the Maval Consulting Board: Dear Sirs:

The next meeting of the Neval Consulting Board will be held in the Board Room of the American Institute of Mining Engineers, Engineering Societies Building, 29 West 39th St., New York, on Saturday Docember 14th. Lauchson will be served in a private room at the Engineers Club.

The informal meeting will begin at nine A.H. and
the formal meeting at ten. The attendance of every
member is desired, as important business will be brought before
the meeting.

Very truly yours, \_\_\_\_\_\_ Thomas Robins

Secretary.

Mighet wrate December 9th, 1918.

Mr. T. A. Edi son:-

. good agreed blevery & det

It would seem that your audible range finder of or any Vacture la licem might have a field of usefulness in sulvoying.

In many places where forcets, perches and other Lengthelium Cities from the African Control obstacles intervene, a great deal of time and expense night be saved by using an audible method instead of an optical one. Any document of the Control of

There the exact characteristics of a sound are now important, a recorder element might be used which would inside and differentiate from three stations.

The attached sketch shows in somewatic form one way in which a single recorder point might be controlled, so as to give readings from three stations, as is necessary in audible range finding.

The use of a single recorder element instead of three

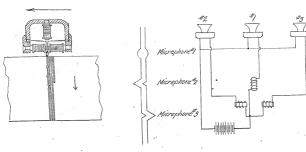
separate recorders, (as we have been using), would, of course, permit the recorder to travel the whole length of the cylinder and thus give three times the length of recording surface for a given sized cylinder. It would also deviate the necessity of having to line up three recorders accurately, rith one another.

NHH:GAP

N. H. HOLLAND

WH W.

# [ATTACHMENT/ENCLOSURE]



Enlarged View of Gut.

Wireing Diagram.

SAMUEL C. SHAFFNER CONSULTING ENGINEER CHICAGO December 12, 1918.

Mr. Thomas A. Edison, Edison Labratories.

Orange, New Jersey.

My dear Mr. Edison:

Since I last heard from you, I was was given the commission, but realizing the short duration of the war. I declined to accept it, to get back into

work which I consider more permanent. -I have been assisting in some development work, which I feel you

will be interested in knowing something about, and I will give you, in a general way, what I have seen.

The very feeble current taken from the wireless telegraph aerial ie led into a two stage sadion (this sadion is, of course, especially designed for this work). From the audion the amplified current is led into a modified head telephone, working in front of and very close to a small jet of air. which is under about 1" water pressure and escaping from a 1/32" nozzle. A horn is placed so the end of this air jet just enters the small end of the horn and enables one to hear the wireless message some forty or fifty feet away from the horn.

Another arrangement of this air jet is used for hearting-and cooling a very fine platinum wire, the heating and cooling of which causes a censitized relay to work so that the relay operates a sounder, which causes a paper tage to go back and forth, under a fountain pen, and recorde the dots and dashee very clearly on the tage.

Both of these arrangements work very nicely. This work is partly for the government and is supposed to enable the submarine cables to be worked with very small ourrent, thereby increasing the cending capacity fully 100%.

The arrangement of the sensitive air jet I thought probably would be of extraordinary interest to you, as it would probably be possible to use some such an arrangement in connection with a phonograph. This application would be necessary only where and in connection with a plan that I have heard of being worked on, that of having a hardened steel, magnetic wire, being drawn in front of an electro magnet, being produced by the previously polor -tied wire or disk. I assume you are familiar with this arrangement. have set by the side of this instrument and .sem the pape record accurately, a message from the wireless station at San Diego, California and Key Woet, Florida.

I have been told that the Victor Phonograph Company is working on a new instrument, which they expect to have out within a year, along these lines Mr. Thos. A. Edison, No. 2, 12-12-18.

of magnetic polorization of a wire tape or disk.

Trusting that this will be of interest to you, also you and Mrs. Edison continue in the best of health, I am,

Sincerely yours,

Samuel 6. Maffiner

6107 Kimbark Avenue, Chicago, Illinois.

P.S.

"I would rather hear a drunken sailor sing "Yankes Doodle" on an Edison instrument, them to hear Galli-Curci sing "La Traviata" on a Viotor, etc., shooking "--e Mrs. Shaffner.

N.LS

NAVY DEPARTMENT

OFFICE OF NAVAL INTELLIGENCE

BRANCH OFFICE 288 FOURTH AVENUE

NEW YORK

Auk of Yearnat Keep 12, 1918

Thomas A. Edison, Esq., Orange, N. J.

Dear Mr. Edison;

The Office of Naval Intelligence

has ordered this office to have all identification oards returned at once, as this office is closed.

In accordance with these instructions, will you kindly send your identification card to the Branch Office of Haval Intelligence, 288 Fourth Avenue, New York, at your earliest convenience.

Very truly yours,

Lieutenant, USNRF Acting Officer-in-Charge.

6108

Julell

December 14.1918

Hr. A. Duer Irving, Lieutenant, USREF, Acting Office-in-charge, Navy Department, 288 Fourth Ave. New York, N.Y.

Dear Sir:-

Your letter of the 12th inetent to Mr. Edicon seking him to return his identification card has been received.

Hr. Edison is, of course, quito willing to return the pass if it is deemed necessary but he would like to restain it, if permissible, and has requested me to write and ask if there would be any objection to his doing os.

Yours very truly,

agistent to Mr. Kåigen.

December 16,1918.

Rear Admiral W. Strother Smith, U.S.B.,

HAVY DEPARTHEUT.

Washington, D. C.

My dear Admiral:

Allow me to hand you herewith our Laboratory bill for experimental work done by Mr. Mison covering a period, September 30. 1918, to November 30,1918, at cost, assounting to \$12,433.45.

This bill is sent in duplicate, certified to by Er. Edison.

When the check is ready, you can forward it to me as usual.

Yours very truly,

Assistant to Mr. Edison.

Enclosure.

December 16, 1918.

Hon. Nowton D. Baker, The Secretary of War, Washington, D.C.

My dear Mr. Secretary:

Allow me to hand you herewith our Laboratory bill for experiments done by Er. Misson, severing a period, September 30,1918, to Evember 30,1918, et cost, amounting to 33,171.04.
This bill is sent in duplicate, certified

to by Hr. Edison.
When the check is ready, you can forward

when the check is ready, you can loreare it to me as usual.

Yours vory truly,

Assistant to Mr. Edison.

Enclosure.

December 17,1918.

Hr. Samuel C. Shaffner, 6107 Kimbark Ave. Chicago, Ill.

Dear Mr. Shaffner:

Your letter of December 12th come to hand in due season and I showed it to Mr. Edison.

He wants me to say to you in reply that Persons, the inventor of the steam turbine, worked out an air scheme similar to yours and we made helf-dozen. It amplified the scund enormously.

With kind regards, I romain,

Yours very truly,

aniatant to Hr. Edigan

A /6121

EU S.

n.H. Holland

United States Geographical Survey

have been developing for the use of the United States
Many an accustical device for determining the position of concealed
the control to use that the same appearatus or schoose might be
used to advantage in surveying under conditions where it was very
difficult to use far transit.

The genoral plan is to locate on a measured base line three points to receive the sound. The sound from those three stations is classified the property of the same time also receives a record of source time through.

As with this apparatus, we are able to tell exactly the length of time in which tao sound reaches the different stations. We are able to locate the points where the sound originated.

The teets wo have made indicate that very close results of one to obtained, and was would be interested to learn thether you consider the audible method of locating unknown points would have any upplication in your work.

Your my hing

12/18/18.

(6171)

To No.

### NAVY DEPARTMENT (DURIEAU OF SUPPLIES AND ACCOUNTS)

Washington, D. C.

16 December 1918

PERSONAL PRIVATE

ir. Thomas A. Edison, Orango, How Jersoy.

Great and Good Friend:

I have not a conner acknowledged your vary wonderful latter of 2 December boomsone I have been trying to be feshionable and get into the casualty list with influenza. Heving failed in this, I expect to full again in my offort to tell you how much I appredict the kind things you were good enough to say about no and my work.

True, I have tried very hard. Likewise, I have done the best I could. But my efforts would have secured to little or nothing if I had not been surrounded by No most efficient staff that I think any san over had suppliers. To these such to generous encouragement of a few powerful friends like yourself may be largely attributed such measure of success as I have been able to attain.

If you think that I see ossentiaging in the least degree to the statement I have just smade, I wish you could be here some day when distinguished visitors are looking see over and see see shew them your photograph which is at my right hand and so close to me change that I have been been been used and a close to me change that I have been been been and a close to me change that I have been been been been a considerable and the contract of the contract of the contract of the contract of the most remarkable and successful concurrings over attempted by anybody in the LMYI.

I mean that I felt almost like a confidence man when I accepted from you your picture on which you had written with your pen: "To a live wire, my friend Samuel Economan, U.S.M."

And yet, however undeserved, it accomplished a lot of good because I ewear to you that I have tried ever since then to actually be a live wire and thus keep you from ever finding out how far you had over-estimated me.

For the rest, I promise you that I am now trying and shall hereafter continue to try to live up somewhere near to the very high estimate expressed in your good letter to which this is the reply.

With eincore assurance of my grateful approciation and trusting that I may have the pleasure and honor of seeing you when you next visit Washington, I am

Yours faithfully, Salfowan

December 19, 1918.

Hon. Newton D. Baker, Secretary of "ar, Washington, D.C.

My desr Er. Baker:

One of the items in the line of my experiments
for the Secretary of the Nevy was locating the position of suns
by sound through the medium of phonographic records.

My early experiments were made with a shot gum and gums of small onlibre, but I did not deem our work complete until tests were also made to include big gums. Therefore, I sent my youne men to Sandy Hook, and I am forwarding to you herewith a copy of the report I have made to the Scoretary of the Bary shpring the results obtained.

As the subject is one that may be of interest to your Department, perhaps you may domm it desirable to spare the time to read this report.

: Yours very truly,

Secretarial Service Department

THOMAS A. EDISON, PERSONAL

Milson Phonograph Works. Government Orders.

4:33 r 19. 1918.

SUBJECT:

Functions

Mr. John P. Constable, Division Manager Laboratory:

Mr. Howard Eckert, Secretary of Edison Phonograph Works, has requested no this morning to advise him promptly the final amount which is to be billed to Edison Phonograph Works for the "Mark 3-B" work for United States Government. which we have been performing on their orders. I have asked Mr. Ryder to get this togother.

We should go very carefully over any orders which have been placed on the outside for work in this commection and make ours that all bills for such work have been received and taken into our account against Edison Phonograph Works. If these accounts with outsiders are of any considerable amount and there is the remotest possibility of these concerns sending us further charges of which we are not informed at the moment, will you be good enough to refer such items to me with full information so that I can consult the Legal Department and arrange for lotters to go to such vendors to require a statement from them of their charges against the Laboratory and get a release from any further

If there is any further Government work being done in the Laboratory for Edison Phonograph Works, would suggest that you consult with them to ascertain whether or not work should be stopped.

Mr. Eckort tells me that it is his belief that the Laboratory was instructed some time ago to discontinue all work on the "Mark 3-B" Order, and I understand from Mr. Byder that Mr. Olson has stated that no work has been done on this in the Laboratory since the latter part of Hovember.

R. W. Kellow,

Soorotary.

HT/R. PS

Mr. Ryder - Mr. Howard Eckert.

Copies to:-

1533-3-5C-10-18

THE SECRETARY OF THE NAVY, INVENTIONS AND REFER TO NO.

WSS:MW

## NAVY DEPARTMENT

WASHINGTON

Dec. 20, 1918

My dear Mr. Meadowcroft:

I am enclosing you a copy of a letter that I Have just addressed to Mr. Saunders. Referring to the aid to Mr. Salteon, I have included you as understood to be the one I have in mind. I am sorry that no ladies are included in the list.

Please wire me on receipt of this letter whether Mr. Edison will come or not and impress it on him that there can be no waiting beyond the hour set.

Very sincerely yours,

Rear Admiral U.S. N.

Mr. Wm. H. Meadowcroft, Edison Laboratory Orange, New Jersey

6196

## [ATTACHMENT/ENCLOSURE]

Wes: Ma

December 20, 1918

My dear Mr. Saunders:

I have just been informed by the Scoretary that I am to go to New York, be there on the morning of the 26th and look out for the Haval Consulting Board in viewing the review.

The U.S. Penguin will leave the foot of 97th Stroot Borth River How York City at 8 All promptly. I have cards for each member of the Earl Commilting Beard, one for each This does not include any one who is not a member of the Board except they requested an oxtro card for some one to accompany Mr. Edition. I understand no ladies have been invited to go on the Foligain.

On the same boat will be the Senate and House Haval Committees and mother boat will carry the foriega attaches. The program the Place to these two boats to follow the Hayflower than the Place than the Place the anchoredate circle around the Float returning to their docks and proceeding to the reviewing ctand on Fifth Avenue and 25% Street in automobiles which will be furnished by the Auxiliary Motor Corps.

I will be at the New York Yasht Club sense time the transport of the More and Will be at the dock early Thursday morning having with me the tickets of admission. It is extremely important that members are in ample time to go on board of the best before 8 of and as the best will leave its dock promptly on the theory are the dock promptly on the theory are in ample time to the transport of the dock morning the transport of the dock morning that the best will late and might result in deleying the Floet.

also communicating direct with Hr. Edicon on the subject. I em calling Robins on the long distance phone on was that he may get out his notices in ample time and be roady to take them up with this letter tomorrow morning.

Vory sincorely yours,

W. L. Saunders, Esq., 11 Broadway New York City

10

December 21,1918.

My dear Burd:

. My man Hanley will present this. He is an experimenter who has charge of experiments on Sachem. I want a small job made in a hurry so we can be ready for a storm outside of the Hook.

our listening rod sometimes fails to function and is broken. We know the trouble and want to rig up another one roughly made, to cruise outside the Hook so we can get it to ride 0.K. no matter how high the waves are.

Will you please turn the young men over to one of your men who will push the job. Hanley has the drawings.

I can get a blanket order if necessary from the Secretary to cover any work of this kind, unless you think the general order you already have is sufficient.

Yours sincerely,

Rear Admiral G. E. Burd, - New York Havy Yard, Brooklyn, N.Y.

Α.

. :^C7

## [ATTACHMENT/ENCLOSURE]

My new Harley well wars and with the wars and white wars and the standard will wars and when the standard war a south of the year of a construction of the standard of the sta

NAVY DEPARTMENT OFFICE OF NAVAL INTELLIGENCE BRANCH OFFICE 288 FOURTH AVENUE NEW YORK Thomas A. Edison, Esq., Orange, N. J. My dear Mr. Edison: I take blessure in advising you that your request to retain your identification oard of the Office of Naval Intelligence, has been granted by the Director, Admiral Welles. It will be necessary, however, for you to send it in to the Office of Naval Intelligence, Washington, (attention of Lieutenant Albert Z. Gray) for cancellation, when it will be returned

Thomas a. Edwar, Inc. West Grangz, M) at the Sal h torem

Dam back with the upany to whom I worked Lutar x the owner has expressed his demo to develope me a lies protege and start with an advance in salow. lun afforte in bronde son burglete without a letter you I may I have an explan in from the diso the year load - or many extracted - be presume the personel all dapt has an outline of some out. and too - Im Meadow craft, high shave a copy of the last

any Dept, which with best Theory xmas and a Happy to 1918

## NAVAL CONSULTING BOARD

OF THE UNITED STATES

THOMAS A. EDISON,
PALMENT,
WILLIAM L. BAUNDERS,
CHARLEMAN,
BENJAMIN B. THAYER,
VICE CHARMAN
THOMAS ROBINS,

OPPICE OF THE SECRETARY 13 Park Row, New York

To the members of the Naval Consulting Board: Dear Sirs: Dec. 21, 1918.

Secretary Daniels has made the following arrangements whereby the members of the Naval Consulting Board may take part in the Review of the Fleet, which is due to arrive Thursday morning, Doc. 26th,

The U. S. S. Penguin, a new mine-laying vessel, has been assigned to the Board and to the Senate and House Naval Committees, and will leave the dook at the foot of West 97th St., New York, promptly at S A.M. on Thursday, December 26th. Admiral Smith will be on the dook early and will have passes for the members of the Board. There is one pass for each member and they are not interchangeable. None but members of the Board are invited. Ladies or other guests cannot be admitted.

At 8 A.M. the Penguin, following the Mayflower and another vessel carrying foreign diplomatic officers, will sail to meet the Fleet, and after the Fleet has anchored will circle around the vessels and then return to the dock, where our members will be met by automobiles of theAuxiliary Motor Corps and taken to the Reviewing Stand at 23rd St. & Fifth Ave., where seats will be provided. Luncheon will be served on board the Penguin.

Our members are especially urged to be at the dock well before eight o'clock in order that they may be sure to mest Admiral Smith, obtain their passes and go on the vessel before the time of salling.

Very truly yours,

Thomas Robins, Secretary. Jolegrands

Rear Admiral W. Shother Smith

Navy Dept.

Nashington, D. E.

W. Edwar, wishes me to express his agred he with not had been been with the review.

He has heavy cold and would not wish to risk the tay.

Not wish to risk the tay.

Ly good H. Meadowningth.

December 23,1918.

Rear Admiral W. Strother Smith, U.S.R., Navy Department, Washington, D.C.

My dear Admiral:

I received this morning your letter of the 20th instent enclosing the carbon copy of your letter to Hr. Saunders. I immediately went to show it to Hr. Edison and he saked me to send you a telegram, which was dispatached immediately. I am enclosing a confirming copy of the tele-gram.

I do not regard his cold as serious, but he does not wish to run the risk of its growing worse.

Let me thank you for your kind intentions regarding myself.

Very truly yours,

Assistant to Mr. Edison.

1/6176

December 24,1918.

Er. George B. Hanford, Jr., 48 Spruce Street, Bloomfield, N.J.

Dear Er. Hanford:

was received. I am sorry that we did not get an opportunity to exchange mutual good-by's, but lot me now express the hope that your future will be very bright and prosperous, and I certainly extend my very best wichee to you.

ecrices while in our employ were of the most estisfactory character. We can ectetnize testis your intelligence and trustworthiness and the shifty and willingness to hustic, and willingness the said of the same content of the

With the Season's Greetings, I remain,

Yours sincerely,

Assistant to Mr. Edison.

A/6187.

# Secretarial Service Department THOMAS A. EDISON, PERSONAL

Edicon Phonograph Works. Function: Government Ordere. SUBJECT:

Memorandum No. December 24, 1918. Date

Mr. J. P. Constable. Chief Engineer:

Mr. Howard Eckort, Secretary of Edison Phonograph Works, has telephoned me this afternoon that all orders on which the Laboratory is engaged on instructions of Edison Phonograph Works for account of the United States Government must be wound up as of Saturday, December 28, 1918. The Phonograph Works must render a final account to the Government within two weeks.

This means that the Laboratory will have to figure up the final cost of all of these orders and bill the Edison Phonograph Works, so that they may make their accounting to the Government.

I have asked Mr. Eakert to see to it that the Laboratory is advised in writing regarding this.

R. W. Kellow.

RWK: PS

Secretary.

Copies to:-

1533-8-50-10-18

Have Jodnahay man find the mater at come of the shops that (cert) amade motors they may have odds - Ends - hay all the Shaps also shap around

motor Frame: Round, not over 4 dia, not over 5" long exclusive of bearing housing or Shaft not smaller than Tie" nor larger than 1/16" must protunde it least " at either must either have ball hearings or have horising burge Enough to Swount a ball bearing 13/6 dia. 3/4" ruide ?

Winding

120 V.D.C.

must wake soooar

Good R.P.M.

Jo run, at Constant

speed, Constant

load for the 3 pound

fly which out thust

hearing 25 " bare

Serbodi & Jayne

Wants 1/32 ababut

Want le Rheels

15" agg

Was If he can't get 120 Volls WE can use any Valtage as we hade batteries. I case he finds 3 or 4 motors that operations Sens all by Expres Zaison Kallow Change special light for Cargo

## Naval Consulting Board and Related Wartime Research Papers Subjects -- Daylight Illumination Experiments (1918)

This folder contains correspondence and other documents pertaining to photometry experiments on water and sky brightness conducted for Edison in Key West, Florida, by William F. Little of Electrical Testing Laboratories. The oversized data tables enclosed with Little's report have not been selected.

### **ELECTRICAL TESTING LABORATORIES**

GENERAL OFFICE AND LABORATORIES

BOTY ST. AND EAST END AVE.

NEW YORK

March 30th, 1918.

Mr. Thomas A. Edison, Keywest Havy Yard, Keywest, Florida.

Dear Sir:

Enclosed you will find tables of photometric measurements made in Keywest and in the vicinity between Pebruary 18th and 27th, inclusive. You will note that the formal report explaining the inclinate. For whil nowe has the admin report explaining the tables is not stached. This will come forward Tuesday or Wednesday of next week, but I believe that you will find the tables self-explanatory, for instance, table 1, sixth series of measurements should be interpreted as follows:

"South"

"Clouds, 1" indicating light Cumulus clouds in the direction of observation, "inme" time of observation "3.46 pm.", "milliambort" brightness of the sky "2930," etc. The illumination measurements made at this time should be interpreted as follows:

"Horizontal" illumination at "4.07 pm.", "foot candlee 4000".

"Verticel illumination" with the photometer test plate facing the "west" the cloude in the western sky are medium Cumulus, "time 4.09", "foot candles 9150", etc.

At the bottom of the page the brightest clouds in the eky at the time of observation are indicated, namely at an "eltitude of lo"" in the "south at 12.21", a "milliambert" brightness of "3130" was found, etc.

Table 2 shows the sky brightness at senith on the "Buoy Dook in the Navy Yard on February 20th" (next to the last series of measurements) in 1.41" the sky showed a milltamber thrightness that the sky in the direction of observation; name in the seatern portion of the sky from horizontal to 80° altitude; hase in the western portion of the sky from horizontal to 80° altitude; have in the western portion of the sky from 15° to 75° altitude; have the clumbus clouds in the surface morther portion of the sky trom heavy white Cusulus clouds in the southern portion of the sky at 80° altitude; heavy Cusulus clouds in the northern portion of the sky at 80° altitude, and the eun under a cloud.

ELECTRICAL TESTING LABORATORIES.

Mr. Thomas A. Edison. March 30th, 1918.

Table No.6 - (a) Indicates the direction of observation (b) The amount of sky covered by clouds in tenths (c) The character of the clouds in the sky.

For instance, the first series of observations the clouds in the direction observations the clouds in the direction 4/10 of the sky was covered with the cloud; and the general character of the clouds ever medium and dark Cummius)

Table No.7 - The brightness of the sky and water are given at the same angle from the horizontal; the figure above, the Intier below; the altitude is therefore designated plus and minus. For the first series of measurements the clouds in the direction of observation are gray Cumming; the time of the observation for the sky was "6.11" 8.05 and for the water 1.54. The militaheart trightness for the oldy

I believe that with the above explanation you will find no trouble in understanding the tables and the report will follow later.

Yours very truly,

Um. F. Little.
Engineer in Charge of Photometry.

W.F.L./M.S.

Enclosure - tables.

## **ELECTRICAL TESTING LABORATORIES**

GENERAL OFFICE AND LABORATORIES

BOTY ST. AND EAST END AVE.

NEW YORK

April 17th, 1918.

#### Order Ho.16804-S

Mr. Thomas A. Edison, Key West Havy Yurd, Key West, Florida.

Dear Sir:

Inclosed herewith you will find our complete report 10.26727, overing work done in key west, Florida, between Pebruary West, Elorida, between Pebruary Hanning out this report In menting out this report in interpreting the results. If we can be of any service in helping to interpret the results or compling other data, please call upon us. If there are any points which are not entirely clear, I should be very glat to make further explanations.

In the case of table 10.8 where the relative brightness of the white plate issuered in the Guilf Stream, it will be noted that the plate could be seen at a considerable greater depth than 20 feet. However, the small waves have produced so much refraction and shifted the apparent with was not possible to hold the photosetor field on the plate long enough to secure measurements. Purther, the measurements at a depth of 15 to 20 feet are quite uncertain for the same reason. When the plate would by reached the shady side of the submarked the charge the could be successed by peacing undermeath the chaser at a depth of 10 feet and greatery peacing undermeath the chaser at a depth of 10 feet and greatery peacing undermeath the chaser at a depth of 10 feet

If there are any published data on daylight illumination which you desire, please call upon me.

Yours very truly

Engineer in Charge of Photometry.

W.F.L./C.

Enclosure.

### [ATTACHMENT/ENCLOSURE]

### **ELECTRICAL TESTING LABORATORIES**

GENERAL OFFICE AND LABORATORIES BOTH ST, AND EAST END AVE. NEW YORK

REPORT NO. 26727

RENDERED TO THOMAS A. EDISON

DETERMINATIONS OF WATER AND SKY SKIGHTESS AND DAYLIGHT ILLUMINA-TION AT KEY WEST, FLORIDA AND VICINITY.

ORDER NO.16804-S

The purpose of the test was to determine the ranges and order of magnitude of water and say brightness and daylight illumination under different conditions of say throughout the day. Test

A series of investigations were made covering different periods of eight days. In order to determine the brightness above the horizon the say brightness measurements were made on the meridian and on the are of a great circle passing through the East, Zenith and West at altitudes extending from the horizon to the zenith at 22-1/2 intervals. As the cloudiness in the direction of observation has a considerable influence on the degree of brightness, the character of such cloudiness is noted. Deylight illumination is also greatly influenced by the amount and character of the clouds in the sky. Therefore with the measurements, sky and cloud conditions are noted.

key West is situated at Lat. 24° 33' Worth, Long. at 61° 46' West and is in the central time belt using the 90th meridian time. During the time of measurement (February 18th to 27th inclusive)

-2-

the equation of time varies from 14 minutes and 8 seconds to 12 minutes and 56 seconds; therefore the local apparent time for Key West is taken as 19 minutes later than 90th meridian standard time. In order that the measurements may be applicable to other locations, the time in all cases has been changed to local apparent or sun time. On Webruary 18th the sunballitudg/wes-6°.

It was hoped that measurements might be obtained on a cloudless day, also on an evenly overcast day, in order that data might be determined for the two extremes and the values interpolated for any conditions varying between these extremes. During the period between rebruery 18th and 27th inclusive there was no day which completely filled either of these two conditions for any extended period of time. The weather bureau records for Key Vost were exeminoù and it was found that but two evenly overcast days had occurred between September 1st, 1917 and the time of examination of the records, Ichrary 22nd, 1918. Farther there had been but three or four days during this period when the say was cloudless for any extended period during the day, and in no case during this time was the early morning sky entirely cloudless. On February Edra several times during the morning the sky was entirely cloudless, but this condition lasted for only a few minutes at a time. During each of the other days the clouds were present in the sky in varying amounts. Hevertheless measurements were made, even though the conditions were far from ideal.

In order to secure complete information, illumination measurements were taken to accompany the brightness measurements. In several cases the brightest clouds in the sky were measured and

-3-

found to be considerably brighter than the surrounding blue sky. In all cases they were heavy white cumulus clouds so looked that the sun's rays fell directly upon them, increasing their brightness to a maximum.

Under all conditions the blue sky was found to be considerably brighter at the horizon than elsewhere, with the exception of that part of the sky edjecent to the sun.

Eight investigations were made, the results of which are discussed and summarized in the following pages and tables.

Investigation No.1. (Table No.1)

On February 18th the condition of the sky was not ideal but an irvestigation was made in order to secure values which, while not conclusive or indicative of the renge of brightness under elser or overcast sky, might nevertheless be of value for interpolation. The photometer was placed on the southwestern perspet of Fort Taylor where an unobstructed view of the horizon could be had to the south and west with a sky line to the north end east having a maximum altitude of 3 degrees. The photometer was directed toward the south just above the horizon and measurements made from this position up to senith and down to the north horizon at 22-1/2 intervals. The same procedure was followed pointing the photometer to the east and describing the same are toward the west. These measurements were continued throughout the day until sunset. The observations taken at 11:52 s.m., showing light oumulus clouds, are somewhat low due to bleck smoke near the horizon (from the city).

Immediately after summet(et 5:42)measurements were made of sky brightness near the horizon, (N, E, S and W, )as noted at the and of the table.

#### [ATTACHMENT/ENCLOSURE]

Report No.26727

-4-

The cloud brightness values at the bottom of the  $\rho\epsilon\rho\epsilon$  whow the brightness of the heaviest white clouds noted during the day.

#### Investigation No.2 (Table No.2)

On February 19th and 20th a study was made of the brightness at zenith with different conditions of sky. Most of the measurements were made with the photometer pointing at clear blue sky with surrounding clouds in verying amounts. Cloud conditions and their positions are noted throughout. When clear blue sky without have is observed, the brightness is opporently independent of the kind, amount or position of clouds in the sky.

#### (Table No.5)

On Pobrucry 20th, measurement was made of horizontal illumination from the moon. The moon was about half full (whitude not recorded). Therefore the intensity shown in the table of approximately half the published value\* is consistent.

Investigation No.4 (Table No.4)

On February 21st the conditions of the sky were slightly less favoreble then on February 16th, but an investigation was carried on in the hope that the data obtained might prove of some value for interpolation purposes. The measurements were made on Sand Xey with the photometer so picced as to give an unobstructed horizon to the N. S. S and W. The only buildings on the islend were

<sup>\*</sup>The meximum normal illumination intensity from the moon recorded as 0.030 foot-cendle, horizontal illumination 0.022 foot-cendle. I.E.S. Tremmections 1908 "The Intensity of Maturel Illumination Throughout the Day" by Leonerd J. Lewinson.

Report No. 26727

-5-

the lighthouse and the weather bureau, and the photometer was placed at a sufficient distance so that little or no light was obstructed by the buildings. During these measurements no note was made of the amount of clouds in the sky, and the measurements were discontinued on account of extreme variability of the sky. Investigation 80.6 (Pable Ho.5)

On February 22nd the sky was covered with a number of small shifting clouds throughout the entire day, therefore no measurements similer to investigations 1 and 3 were made. During the latter pert of the afternoon measurements of water and sky brightness were taken from the top of the lighthouse. The water and sky were viewed at corresponding engles from the horizon with the supposition that the brightness of the water would bear a definite relation to the brightness of the sky at the corresponding engles. These data, however, are incomplete, and those made toward the shallow water are not applicable to deep blue water. Further the water was so far from the base of the lighthouse that it could not be viewed at an engle greater than 50 degrees to the horizontal.

On February 25rd the conditions of sky were good throughout the greater part of the morning and a complete set of data were secured from 6:25 in the morning until 1:05 in the afternoon. During these measurements complete sky conditions were noted, hamely; (a) the condition of sky and kind of clouds, if any, in the direction of observation, (b) the amount of sky covered by clouds in tenths, (c) the kind of clouds in the entire sky. For example, the observations at 6:25 a.m. were taken at 2 degrees altitude (just

Report No.26727

-6-

above the north horizon.) The clouds in this direction were heavy white cumulus with 4/10 of the sky covered with medium and dense cumulus clouds. The brightness under these conditions was 101 millilemberts.

# Investigation No.7 (Table No.7)

On February 26th an investigation of sky and water brightness was made on board the U.S. Gunboat Petrel. The photometer was placed in the efter port life boat which overhung the water by 10 to 15 feet. During the measurements to the East and South the course of the ship was Southwest, and during the measurements West and North the ship's position was reversed so that in all cases an unobstructed horizon was secured. However, with the ship's coarse Northeast some of the brightness measurements of the water and the illumination measurements with the photometer test-plate directed toward the water are probably low, resulting from the fact that the ship itself threw a shedow and out off light from the direction of observation. The change in the ratio between water and sky brightness for the same position may be accounted for by the difference in roughness of the water. During the measurements the ship was steeming forward with speed only sufficient for steerage way. The observations were made in the deep blue water of the Gulf Stream.

# Investigation No.8 (Table No.8)

For the purpose of determining the reduction of brightness of a surface immersed in weter at different depths, an iron plate four feet square was painted white and attached to four ropes so that it might be lowered into the water. The coefficient of reflection of the plate was determined while dry, and found to be 43 per cent.

#### [ATTACHMENT/ENCLOSURE]

Report No. 26727

-7-

On February 26th an investigation was attempted at the Buoy Dook of the Hevy Yard, but the water was not sufficiently clear to render the results of any value.

On Pebruary 27th the plate and photometric appersus were taken aboard a submerine chaser and the study made in the clear blue water of the Galf Streem. The plate could be readily seen at a depth greater than 20 feet, but the refraction produced by the small wares shifted the apparent position of the plate to so great on extent and so repidly that photometer readings could not be taken beyond this depth.

### [ATTACHMENT/ENCLOSURE]

Report No.26727

## Table VIII

Relative Brightness of White Plate, Above water (dry) considered as 100 per cent

# Plate in Sunlight

Distance below water, (feet)	Relative Brightness, per cent
0	100
0.5	72
i	50
	42
2 3	38
ě	34
4 5	28
5	
6	24
10	19
15	13
20	6

#### ma i - i - du d'ando

IIE OU IN D.	
1	50
	36
2 3	35
4	32
5	35 32 26
6	22
10	18
15	1.5
20	10
	9
ater alone	•

Coefficient of Reflection of Test-Plate

43 per cent

Approved by

Clayton 1 + Shows.

Technical Director.

To pott

Engineer in Charge of Photometry.

Copied by CES. Checked by MC. April 10th 1918.

#### Naval Consulting Board and Related Wartime Research Papers Subjects -- Experiments (1918)

This folder contains correspondence, financial documents, and technical the U.S. Arry during 1916. The bills submitted regularly by Edison for the U.S. Navy and U.S. Arry during 1916. The bills submitted regularly by Edison show that his main project for the Arrny was the destruction of wire entanglements; for the Navy, submarine detection and strategy and the phonograph range finder. There are also letters to and from the Office of the Chief Signal Officer dealing with experiments in field communications. A communication from Richard W. Kellow, secretary of Thomas A. Edison, Personal, indicates that the billing process was haphazard due to secrecy concerns and the rapidly changing nature of the work. At the end of the folder is a list of experiments from March 1917 to November 1918, with the laboratory order number, description, and cost of each.

Approximately 40 percent of the documents have been selected, including all of the substantive correspondence, a small number of technical notes directly relating to Edison, and about half of the financial material. Unselected documents include calculations and drawings by other experimenters (most of whom are unidentified), various printed tables and specifications, payment forms issued by the Army and Navy in connection with Edison's expense claims, and correspondence about minor accounting questions handled by Kellow and by Edison's personal assistant, William H. Meadowcroft.



E.I.DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

CHENICAL DEPARTMENT

January 16, 1918.

Mr. Thomas A. Edison, Naval Annax Building, Washington, D. C.

Dear Sir:

OUR FILE RW-54:

Referring to our conversation in Washington, I am snolosing sketch of a shell which I have had made, showing a device for providing that, if leakage should occur, the leakage will lead toward the outside so that the detonating part of the shall is antirely protected from the contents of the shell. The soft steel ring indicated can be used, or the design may be changed so as to give a wider surface of contact below the thread so that an asbestos gaskst can be used. I might say that we have many pipe lines, in which the same material is carried, which are joined by means of flanged pipe and asbestos packing, which practically never leak. We also use many thread joints wiped with red lead which do not show any signs of leakage, so I believe this joint can be made perfectly tight. Of course you may have already thought of an arrangement of this kind and I am sending it to you for what it is worth.

Yours very truly,

Chemical Director.

# THOMAS A. EDISON

# 11 NOTICE

ORANGE, N. J. LABORATORY.

SOLD TO

United States Covernment.

Army Department. Enshington, D. C.

Offernas a Esisa

SHIPPED

January 31st, 1918.

CASKA PACKAGES Experimental work in Laboratory on devices listed herein over period December 5th, 1917 to Jamuary Sist, 1918 at cost. Laboratory Ponoription\_ Order No.

\$ 1,944.82 Destruction of Wire Entangiments

I certify that the above bill is true and correct.

TERMEI

SOLD TO

# THOMAS A. EDISON

ORANGE, N. J.

Publishing

United States Government,

SHIPPED TO

VIA

Jamzry 31st, 1916.

42

NOTICE

CABES PACEAG	8	OROSS WRIGHT	POUNDS		
		Laboratory on devices 1: 5th, 1917 to January 51:			
Laboratory					
Order Ho.	_	Posoriotion			
5005	Submerine	Patestor		6290-27	
5010 5011		Famoll		15.19	
5013	DoForrest	Wireless		1145.35	
5016		h Rango Findor		1078-26	
5027	Visibilit			173.85	
5090	Shell Tr	jectory		507-20	
5153		Hydrogen Dotector		1464.51	
	Aeroplan	Detection		1105.30	
5452	Invisibi:	Lity of Proightors		1100-00	
5464	Pelchood	(Lye shield-observing or	mator)	30.62	
5575	Color In	terforence on Painted Shi	ps		
5503	Anthroot	te Coal Test		1.09	
5632	Smoke Sh	olls o Strategy Experiments		968.08	
6699	Sahmorin	Strategy Experiments		3418.19	
5765	Finely-d	ivided Form of Trinitret	luol	134,99 16336,96	
5171	Hitrogen	Fixation		94-42	10212.54

I cortify that the above bill is true and correct,

E.D.118329

#### WAR DEPARTMENT, WASHINGTON,



February 9, 1918.

Mr. Thomas A. Edison,

Orange, N. J.

Door Mr. Edison:-

The bill which you submitted to the United States Government for \$3,096.65, covering the cost of experimental work at your laboratory in the destruction of barbed wire entanglements, will be paid by the Engineer Department.

 The erection and destruction of wire entanglements is one of the duties of the Corps of Engineers. The tests which you conducted and the results accomplished would be of great interest and value to that Corps.

 It is therefore requested that you submit a confidential report to the Chief of Engineers, U. S. Army, giving a detailed description of the tests conducted and the results and conclusions reached.

Very respectfully,

Brucia Comorie

Assistant Secretary of War. Greek



PURCHASE ORDER

F. O. B.

To Thomas A. Edison," Orange, N.J. Please deliver the following not later than See note below ORIGINAL

Order No. 17216

GENERAL ENGINEER DEPOT. U. S. ARMY,

1418 U STREET, WASHINGTON, D. C., Bobruary 11, 1918.

See note below ARTICLES UNIT TOTAL. THIS. QUANTITY CONFIRMING ORDER. Experimental work in Laboratory on devices listed herein over period August 1st,1917 to December 5th, 1917 at cost. Laboratory Order No. Description Destruction of Wire Entanglements \$3,096,65 5746 The move has been completed,

Prices based on: Your recent quotation. See note above Shipment via Murks:

Requisition: 2483

Application: Experimental work performed for War Dept, Charge to: Engineer Operations in the Field, 1918.

W. H. ROSE, by MM Milleunen

Chief Clerk.

			CONFIRMING Experimental work devices listed he August lat, 1917 1917 at cost. Laboratory Creder No.				
				encles	UNIT	TOTAL	
	ITEM	QUANTITY		200	note bel	0.14	
	TO SE RATAL					7.11,1918.	
1986-1	Oranged, n.7. LHOMYS Y EDISON  General Engliner Def  U. S. Aranged  U. S. Aranged  1438 U STREET, WASHINGTOR P.			or, "			
	Olema a i	÷.		GE, N. J.			
	Oliona a C	duose	T-ABOR	ATORY.	_	NOTICE	
		SOLD T	0		P P	lease do not after the figures the bill. If any errors or	
501			United States Covernment,		asie for con asie from	Pieses do not alter the figures on the bill. If any arrors or the pieces of the control of the control of the control of the control of the pieces of the piece	
	TERMET		Army Depar	tment,	7000	es elaire on carrier who has speed for goods in first class	
			Washi	ngton, D. C.	OF N	ce. emit direct to Orange, N. J., ce. o selesmen have authority offeet our accounts.	
	YOUR OR		SHIPPED	то			
	SHIPPING		VIA				
				December 5th,	1917.		
	PA	DEVOER D	OROMA WEIGHT	POUNDS			
	here	rimental w in over pe 1917 at co	ork in Laboratory of priod August 1st,191 st.	n devices listed 7 to December			
	Labo Orde	ratory r No.	Nescription	<u>n</u>			
	5	746 Des	truction of Wire Ent	anghments		3,096,65	
	I ce	rtify that	the above bill is	true and correct.			
				1			

1986-191717

THREE

#### THOMAS A. EDISON

ORANGE, N. J.

LABORATORY.

SOLD TO

United States Government,

Army Department,

Chahington, D. C.

ORDER NO. SHIPPED

SHIPPING No. VIA

CANHE PACKAGEN ORGHE WEIGHT POUNDS

Experimental work in Laboratory on devices listed herein over period January 31st 1918, to March Slat 1918, at cost

Laboratory Order Ho.

Description

5746 Destruction of Wire Entanglements

I certify that the above is true and correct.

WHEN REPEDBING TO THIS HILL MENTION THIS NUMBER (

. 53. ...... 854. .....

Please do not alter the figures on the bill. If any series of differences und, bondy return the bill. If any series of differences und, bondy return to the bill of the bill o

7,351.13

#### THOMAS A. EDISON

ORANGE, N. J.

SOLD TO United States Government,

Havy Department,

Vhahington, D. C.

Ollomas O. Edin

YOUR OHDER NO. OUR ORDER NO. SUIPPING NO.

SHIPPED

WHEN REPRESING TO THE BILL HENTION THIS NUMBER I

585

NOTICE lease do not after the figures the bill. If any amos or atteness exist, kindly return corpection, so as to swift haden of eccusist, which was the same of the same is direct to Ozenzo, N. L.

CARES D GRONE WRIGHT

Experimental work in Laboratory on devices listed herein over

period January 31st 1918 to March 31st 1918 at cost.

Laboratory Order No.

Description.

5005 Submerine Delector Thonograph Runge Finder Shell Trajectory Gun Protection 5013 5037 5045 Submirino Hydrogen Detector Aeroplane Detection 5090 5153 5171 Eitrogen Fixation Invisibility of Preightors 5452 5583 Anthracite Coal Test

5632 Smoke Shells 5699

Submerine Strategy Experiments Finely-divided form of Trinitroteluel 5765

I cortify that the above bill is true and correct.

Barch Slat 1918.

3,659,19 1,304,89 81.08

POUNOM

3.43 818,47 1,130,09 4.95

40.02 .74 929 98 3,040.62

11,012,78

## WAR DEPARTMENT,

712-11. 1711/18

WASHINGTON,

April 29th, 1918.

E.D. 661.5 Exp. E.2.

Mr. Thomas A. Edison,

CHANCE, NEW JERSEY.

Doar Er. Edison:

The Chief of Engineers of the United States Army is very much interested in the experimental work which you are conducting on the destruction of wire entanglements.

He has requested permission to have an officer of Engineers detailed for duty at your laboratory, in commection with this experimental work, in order that the Corps of Engineers may benefit from the results accomplished.

Incomuch as the cost of this work is being paid from appropriations of the Corps of Engineers, it would seem that this request is a proper one.

I, therefore, ask that you advise the Chief of Engineers whether or not this arrangement would be agreeable to you.

Very respectfully,

пинтаси

Secretary of War.

My

May 6,1918.

Hon. Howton D. Baker, Secretary of bar, --Bashington, D. C.

My doar Mr. Baker:

I have just received your favor of the 29th ultime, concerning the detailing of an efficer of Engineers to observe the experimental work on the destruction of wive entemplements.

I ontirely agree with you as to the desirability of this action, but will suggest that you defor the same for a short time, in accordance with the following explanation.

ly non are conducting those experiments on a lonely iclass of the Plorida count. Oront can chuc been exercised to preserve secree; and to guard the idea so that the principle choild not leak out, as the enemy would quickly avail himself of it and turn the tables in m.

The experiments have provon very satisfactory and some notion pictures have been made. I expect my men to return ten my Laberatory here in about two works and the plant have in mind "o te go down to Labinjeton too you when they return, and at the case time show the mind of the control of th

In the meantime, I am having a search made for a secluded place in the mountains up here where the experiments may be continued and onlarged when my men return with their apparatus.

Lot me suggest, therefore, that you defer detailing an officer of the Engineers in connection with these experiments until they are renumed an above stated.

Yours very truly;

Mr. Kellow:

Will you please open a new shop order on account of Mr. Edison's experiments for the kar Department. The title of this will be "Protective Steel".

of a trip which ir. Maion made to Pituston, Par at the Theodore Maion, Ir. Maion made to Pituston, Par at the Theodore Maion, Ir. Has fore and Simpson, Tax, amounts to 339.75 and you can credit it against the \$100 which you gave ir. Maion hast Princy.

When you have a number for the new shop order for Protective Steel, will you please give it to kr. Brady, as he were non day last week and bought a lot of steel for Edison, and is waiting for the Shop Order Number so that he can have a Purchase Order issued by the Purchasing Department.

W.H.MEADOWCROFT.

Correct Control of the Control of th

THOMAS A. EDISON ORANGE, N. J. Laboratory. NOTICE United Status Government, Havy Department. Washington, D. O. YOUR ORDER NO. SHIPPED то OUR ORDER NO. June 17th 1918. CAHEN D Experimental work in Laboratory on devices listed herein over period March 51st 1918, to June 17th 1918, at cost, Laboratory Description. Order No. 8,323,81 Submarine Detector 2,532,81 5015 Phonograph Range Finder Shell Trajectory 53,79 .78 5045 5090 Gum Protection 829.25 Submarine Hydrogen Detector .08 Submarine Light Trench Esterial 5092 .08 5094 804.84 Aeroplane Detection Invisibility of Freighters 5153 5452 708,01 Smoke Shells 5652 5699 Submarine Strategy Experiments 491,03 Inertify that the above is true and correct.

THOMAS A. EDISON ORANGE, N. J.

13 NOTICE

Laboratory.

SOLD TO

United States Government,

Army Department,

Washington, D. C.

SIMPPING NO.

CANEN D

SHIPPED

June 18, 1918.

Emperimental work in Laboratory on devices listed herein over period Narch Sist 1918, to June 17th 1918, at cost.

Laboratory Order No.

Description. Destruction of Wire Entanglements

2,874.31

I certify that the above is true and correct.

Proritios Committoo. ashington. D.C.

Contlemen:

Possibly you may be aware of the fact that for the last eighteen menths I have been conducting a series of experiments for our Government at he request of the Secretary of the Havy.

In carrying out these experiments I have used all In CHITYAIR OUT DESCRIPTION OF THE ORDER OF ory I can get is from four to nine months.

The blank applications for priority furnished by your Committoe do not provide for a case of this kind, as they are intended to cover uses where the applicant is manufacturing specific articles for the Government on a commorcial basis. Whilemy work is for the Government it is of an experimenta mature and cannot be described as called for on your experimental blenks, it is such that the benefit of a priority orders might very well be extended.

The following is a list of the equipment I dosire:

From Brown & Sharpo Manufacturing Co., Providence, R. I.

- 1 #3 Brown and Sharpo Gutter and Heamer Grinder, 1 #2 Surface Grinder,
- 1 Magnetic Chuck, 1 Universal Grinder,

From the Hendy Machine Co., Torrington, Conn.

- 1 14" x 6" Engine Latho, 1 set of chucks -1/8 to 5/8".
  - endy illing muchino

I trust your Committee may see its way clear to issue the nocessary priority orders in these circumstances.

Respectfully yours, .

a # "U

Address rupy to CRIEF SIGNAL OFFICER OF THE ARMY, Windington, O. C. Engine or ring Chusuntah Division Andio Dovolomont Doots

To:

interest in the contract

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER,

. .

July 30, 1918.

From: Office of the Chief Signal Officer.

Ifr. Thomas A. Edison, Orango, H. J.

Subject: Improvements in Dignalling.

1. Please accept the thanks of the Radio Development Department for the suggestions given Cop with Placars in your conference on July 24th in regard to various improvements in signalling, which have been brought to the attention of officers especially interacted in them.

2. You may expect that further communications will be addressed to you have when it has been decided how to actively follow up only of the proposed days lonears.

By direction of the Chief Signal Officer of the Army.

J. O. MAUBORONE Major, Signal Corps.

N HEFERIENG TO THE IELL, MENTION THE NUMBER THOMAS A. EDISON 131 ORANGE, N. J. I amaki NOTICE SOLD TO United States Government, Army Dopartment. Washington, D. C. YOUR ORDER NO. SHIPPED July 31st 1918. CANEN D Experimental work in Laboratroy on devices listed herein over period June 17th 1918, to July 31st 1918, at cost-Laboratory Description. Order Bo. 600-7 Protective Steel -Destruction of Wire Entanglements I certify that the above bill is true and correct.

THOMAS A. EDISON

ORANGE, N. J. Loboratory.

SOLD TO

United States Government,

Davy Department,

Weshington, D. C.

YOUR ORDER NO.

они оприн №о. SHIPPING NO.

SHIPPED

July 31st, 1918.

EN REPERRING TO THIS RELL.

130

NOTICE

ORDER WEIGHT Experimental work in Laboratory on devices listed herein over period June 17th 1918, to July 31st 1918, at occt.

Laboratory Order No.

Description Location of Laboratory Special work by Mr. B. R. Silver

600-8 Submarine Detector 5005

Phonograph Rango Pintor Shell Trajectory 5013 5037 5090 Submarine Hydrogen Detector Aeroplane Detection

5153 5171

Hitrogen Firstion Submarino Strategy Experiments

37.21 791.37 ·601.98 1.664.02

40.66 139.94 646.78 3.00

I certify that the above bill is true and correct.

400.11 Invention.

LIE: W

Address reply to
CHIEF SIGNAL OFFICER OF THE ARMY,
Washington, D. C.

Windston D. C.

ENG.& RESEARCH DIVISION
Elioc, Eng. Dept.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL OFFICER,
WASHINGTON.

August 5, 1918.

From:

Office, Chief Signal Officer.

To:

Mr. Thomas A. Edison, Orangs, N. J.

Subject:

Quick Restoration of Wiro Connection Destroyed by Gun Fire.

 In connection with your question in the conference of July 24,1918, relative to the development of a gan for the quick restoration of wire connections, you are adviced that the matter has been taken up with the Chief Signal Officer, of the American Repositionary Ferce, and as soon as his roply is received you will be further communicated with on this subject.

By direction of the Chief Signal Officer.

h. M. Evans. Major, Sig. R. C.

I read in the last report afthe Ormy Intelligence Devision that lately the Germans are using this idea atthey give data. I am anyon you detail Couple number 2 or 3 days to make an Exercised at describing were

whenley fall lines weeshort away we can dill work an going away on the 15th & will be absent 2 weeks, would like to long It before I leave, should want Say 10000 ft of fee the wire for laying My son has abready perfected derie

TO: Mr. T. A. Edison

The He-Holland

August 6, 1918,

Dear Sir:

In connection with our experiments at Sandy Rook, it appears to be necessary to provide the commanding officer, Major Kirk, with multhority to charge certain expenses that may be incurred to this particular work. So far no expenses have been incurred by the Ordinance Department at Sandy Hook, but it is quited likely that warrious charges will have to be made trea time. And the think of the contraction of the

Indow Kirk states that when they have had coperiments to do for the Navy Dept-themet, cortain appropriations were made which were available to this and could be used on authorization of the Havy representative on the tost. Similar to the possible to have Manhington assign a certain credit to this work, and the property of the property of the contract of the contra

We are arranging with the Telephone Company to install the polos and will do most of the work ourselves that we now have in view, but there are certain incidental expenses that the Ordinance Department may be put to that will have to be taken eare of.

The amount stated above is probably in excess of any of our requirements, but the amount of credit left over after the experiment is finished can be returned to the general fund.

MH Hailand

WHH/JED

Amount 7 1018

From: Thomas A. Edison, Orange, H.J.

To: Major L.E.Evans, Sig.R.C., Office of Chiof Signal Officer, Lashington, D.C.

abject: - Gaick Lesteration of Live Connection

Dostroyed by Gun Fire.

Reference: Your 400.11 Invention.

L. I have received your favor of the 5th instant on the above subject. I have read in the last report of the Army Intelligence Division that lately the Germans are using this idea and they give data.

2. I am anxious that you dotail a few mon hore for two or three days to make an experiment at the laboratory here, whereby if all lines are shet amay we can still work them.

3. I am going away on the lith of August and will be absent for about two wooks, so I would like to try it before I leave.

4. In this experiment, I should want, may, 10,000 foot of field wire for laying on the ground. I have the apperatus.

5. Ly son has already perfected devices whereby 2,000 feet of 3/16 field wire can be laid in 30 to 40 seconds. See can show your representative a moving picture of this device in action.

CHARGE TO O. O. B. O. GOVERNMENT RATE.

GOVERNMENT PAID.

# WAR DEPARTMENT TELEGRAM.

OFFICIAL BUSINESS.

WASHINGTON. August 9, 1918

Thomas A. Edison, Orango, Now Jorsey.

Reference letter seventh Bergeant Morris two other enlisted men to report your laboratory Orange a. m. August twolveth

SCULER

por lt. Col. J. O. Hamborgno, S.C.

bringing two miles field wire.

This was just a fictant for the complete was been and pleased of the complete with the complete was a superior of 1918

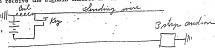
Conr Mall Corp

Lieut. Col. J. O. Hauborgne, S.C., Office of Chiof Signal Officer, War Department, Lashington, D. C.

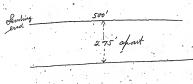
Dour Sir:-

The following experiments were made at Orango, H.J., to determine the fountbillity of muinteining communication over field wires broken by shell fire

along the ground parallel to each other. An induction coll or a single windlel to each other. An induction coll or a single widtle inductance coll-were used to send high voltage impulsor ever one wire and a three stage mailor and telephone receiver tere used to secotive the signals induced in the other wire:



 with both wires unbroken signals could be heard with the wires 275 feet apart:



2. With the sending wire broken at the middle point signal could be detected with the wires 100 feet apart:

with the wires broken as shown below, signed were detected with the wires 5 apart:

Rendwin 250 H Bulin 250 H

fending 250 ft Brown 280/7

Reaving.

By holding the wires up every 50' on 3 foot stakes, little improvement was noticed:

Min Min Min Min all entl

In my experiments a number of years ago; I was divide located high up on poles and much better results were obtained to the proximity of the ware obtained the locate of t

If it is desired, I will continue the experiments and try to improve upon the results of these tests.

Yours very truly,

In reply refer to 311.5 Signal

Address raphy to CHIEF SIGNAL OFFICER OF THE ARMY, Westington, D. C.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL OFFICER,

Engineering and IVISION Research HAF:ho

30, August 1918

From:

Office, Chiof Signal Officer

To:

Mr Thomas A. Edison, Orange, M.J.

Subject:

Signaling by means of Ground Rod.

- A. Culver, 26, July, it does not appear that the method of signaling in discussion, viz., that of signaling by topping with a hammer on a rod driven into the ground, precents any advantage over the various schools of signaling by incoming at present capture, the various schools of signaling at present capture, and as secret light signaling, etc.
- It is also thought that it would be just as easy for the enemy to pick up the signals as it would be for our own force, since the enemy is also supplied with suitable emplifiers.
- 3. It is not considered practicable to develop this method or signaling at the present time, although it will be kept in the minds or the Signal Corps engineers should occasion arise in which it could be used to advantage.

By direction of the Chief Signal Officer.

J. O. Hauborgie, Lt. 201. Signal Corps. 7

WHEN REPERIENC TO THIS BILL.

#### THOMAS A. EDISON ORANGE, N. J.

LABGRATORY

115 NOTICE

SOLD TO

September 30/18.

Танми OUR ORDER NO.

United States Government, Army Department. Weshington, D. C.

SHIPPED

men have authorit

SEEPING NO.

Experimental work in Laboratory on devices listed herein over period July 3ast, 1918, to September 30th, 1918, at cost

Laboratory Order No.

Description

5746 600-9 Destruction of Wire Entanglements Field Communication under Shell-fire Conditions Plating Searchlight Reflectors

\$4,338.00 4.24

600-10

\$4.342.51

I certify that the above bill is true and correct:

IN HEPERBRING TO THIS BILL, MENTION THIS NUMBER ...... NOTICE

# THOMAS A. EDISON

THUSBE

ORANGE, N. J.

September 30, 1918.

United States Government, Navy Department, Washington, D. C.

SOLD TO

YOUR ORDER NO. OUR ORDER NO. SHIPPING NO. CAMEN DACKAGEN

TO SHIPPED

GROSS WEIGHT

POUNDS

Experimental work in Laboratory on devices listed herein over period July 31st, 1918, to September 30, 1918, at cost;

Laboratory Order No. 5005 5013 5037 5090

5153

5452 5632 5699

Description

Submarine Detector Phonograph Range Finder Shell Trajectory Submarine Hydrogen Detector Aeroplane Detection Invisibility of Freightors Smoke Shells

Submerine Strategy Experiments Special Works by Mr. B. R. Silver 1,643.95 139.01 104.09 516.70 42.37 877.22

25,478.22

1,226,11 \$10,037.67 10.00

I hereby certify that the above bill is true and correct.

600.11 Inventions, Wire Throwing

Address reply to CHIEF SIGNAL OFFICER OF THE ARMY, Westington, D. C.

Engineering Division and Research

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL OFFICER,

WASHINGTON. 4. October 1918

JCM:ho

Office, Chief Signal Officer

To:

Mr Thomas A. Edison, Orgnge, N. J.

Subject:

Restoration of wire destroyed by shell fire.

1. Reference your communication of early Angust, unbject, "daick Restoration of wire commention, destroyed by gum tire," in which you suggest the use of the Lyle gum, information has just been received from the Chief Signal Officer, American Expeditionary Forces to the effect that there is no real need for a derice of this sort.

By direction of the Acting Chief Signal Officer.

J. O. Mauborgne, Mt. Col., Signal Corps.

## THOMAS A. EDISON

109 NOTICE

ORANGE, N. J. LABOUATORY.

SOLD TO

United States Government.

Army Department,

SHIPPING NO.

CANEN D

SHIPPED

Washington, D. C.

Movember 30, 1918.

OROSS WHIGHT Experimental work in laboratory on devices listed herein over

period of September 30, to November 30, 1918, at oocts

Laboratory

Order A0. 5746 600-9 600-10 600-11

Description

Destruction of Wire Entanglements Field Communication under Sholl-fire Conditions Silver and Copper-plating Searchlight Reflectors Automatic Star Campe for Ordnance Department 2,929.18 -

3 50 -169 75 -68 61

3,171.04

I cortify that the above bill is true and

correct.

110

THOMAS A. EDISON LABORATORY

ORANGE, N. J.

NOTICE

SOLD TO

Thitod States Government,

Havy Donartmost.

Washington, D. C.

Оси Онови №

5632

5699

SHIPPED то

SHIPPING NO.

Hovember 30, 1918.

CANEN D GHOM WEIGHT

Experimental work in Laboratory on devices listed herein over period September 30, 1918, to Nevember 30, 1 18, at cost: Percription.

Submarine Strategy Experiments

Laboratory Order No. Submrino Detector 5013 Phonograph Rango Pinder 5037 Shell Trajectory
Shell Trajectory
Submarine Hydrogen Detector
Aeroplane Detection
Invisibility of Freighters 5090 5153 6452

Smoke Shells

7,440.91-2.106.49 34.71 29.50 4.51 411.43 509.50 .896.40

12,433,45

I cortify that the above bill is true and correct.

#### Ssoretarial Service Department

#### THOMAS A. EDISON, PERSONAL

Function: Laboratory.

Memorandum No.

SUBJECT:

Edison Personal X Orders.

Dats December 13, 1918.

Mr. Thomas A. Edison:

Attached are bills against United States Government dated November 30, 1918 for your signature and forwarding to Washington for payment as follows:

> Navy Pepartment Army Department

212,433,45 3.171.04

Total \$15,604.49

This includes all charges up to and including November 30, 1916.

Attached is a Statement of Cost of the various orders on which you have worked for the Government, showing cost to November 30 of each and the total cost at November 30, amounting to \$225.205.22, which I think will interest

Only five orders have been charged to the Army Department being Numbers 5746, 600-7, 500-9, 600-10, 600-11. The total charges to Army and Nevy are as follows:

To Army Department To Navy Department

\$26,446.06 196,757,16

Total \$223,203.22

These figures represent the cost as billed to the Government. by no means sure that charges for labor and material have been properly allocated to the orders shown by engineers and others who were engaged on this work. The to the orders show or engineer one orders were in process at all times, so that work progressed repidly and numerous orders were in process at all times, so that twould be surprising if mistakes were not made in allocating charges. Further Furthermore, the work was of an extremely confidential nature and it was thought best by you to confine knowledge of the work you were doing strickly to gursself and on-glasers or otherw the performed the work. For this reason, the persons in the laboratory whose duty it is to supervise such matter did not exercise any supervision over these orders. You may recall that I mentioned the directions and super-vision over these orders. You may recall that I mentioned the directions to you soon atter the work started and you agreed that we should simply have to do the best possible in allocating charges properly under the conditions governing the work.

Also. I imagine that while you and your staff were absent in the South and elsewhere in connection with these orders many more experiments were conducted than are mentioned in this list of orders, for which no new orders were opened, than are mentioned in this list of orders, for malon an new orders were opposed; the cost of these experiments being charged, however, to the orders listed on attached, they gaking the recorded out of these orders higher than it actually see and also, in our not showing any record of these experiments on our bills to use and also, in our not showing any record of these experiments on our bills to the Government.

Copies to:-

#### Secretarial Service Department

#### THOMAS A. EDISON, PERSONAL

Laboratory.

Edison Personal X Orders. SUBJECT: Memorandum No. December 13, 1918.

Mr. Thomas A. Edison

I am keeping in touch with you through Mr. Meadoworoft as to the continuance of this work and have asked him to notify me immediately when work is discontinued on any or all of the orders, so that we can keep a watch on charges which are coming to us.

I have kept this record of orders carefully filed away in a good, safe place and if you wish will file away the list I am sending you herewith in the same place if you think it important to do and return it to me.

R. W. Kellow.

RWK: FS

Secretary.

Copies to:-

1533-3-50-10-18

## LABORATORY OF THOMAS A. EDISCH

Cost of Experimental Work by Mr. Edison and Staff for the United States Government as Billed to the Army and Havy Departments from March, 1917, to Hovember 30th, 1918, inclusive.

	oratory or No.	Donoription	Amount
	0.05	Submarine Detector	\$96,635.40
. 5	009	Chalk Telephone	613,44
	010	Submarine Funnel	1,916.60/
-	011	DeForrest Wireless	3,778.86
-	012	Photography	151-47
-	013	Phonograph Rongo Finder	18,801.12
-	io14	Telescope	497.72
	1016	Vigibility	4.669.89
	027	Sholl Trajectory	5,020,33
-	ió44	Morophone	8,484.31
	5045	Om Protection	334.78
		Fire Extinguishing Apparatus	290,05
	5047	Battle Ship Fire Protection	668.61/
	5049	' 1	127.66
	8805	Torpedo Motive Power	1,151.52
	5092 .	Extension East	•
	5090	Submarine Hydrogen Detector	5,803,69
ŧ	5092	Submarine Light	126.44
	5094	Trench Material	63.73
	5107	Trenda Piro	72.57
	5133	Visual Signalling	381.93
	514.5	Submerine Gun	. 53,29
	5147	Visual Range Pinder	614.25
	5153	Aeroplane Detection	4,951.79
	5181	Bitrogen Fixation	1,379.06
	5181	Mizzlo	217.35

	·	
5211	Fresh Water from Sea Water for Buoys	\$134.37
5234	Signal Light Shuttor	292.43
5245	Acroplane Bomb Thrower	873.94
6251	Speed-of-distant-ships Indicator	264.51
5273	Periscope Sighting	1,485.00/
5291	Slow-burking Powders	276.97/
5292	Ship Protection against Torpedoes	167.58/
5450	Aeroplano Construction	109.67/
5452	Invisibility of Freighters .	12,913.91/
5454	Telehood (A device for observation on the water: a shield for the eye	s) 103.03/
5536	Underwater Explosions	183.69
5575 .	Color Interference on Painted Ships	296.27/
5583	Anthraoite Coal Tost	1,444.35
5632	Smoke Shells	4,988.98/
5699	Submarine Strategy Experiments	15,448.84/
5746	Destruction of Wire Entanglements	26,153.18
5765	Finely-divided Form of Trinitrotolucl	149136/
6006	Location of Laboratory	37.21/
600-7	Protoctive Stool	46.51
600-8	Experiments with Dr. Schoole-Er. Silver	801.57/
600-9	Field Communication under Shell-fire Cond	itions 7.74
600-10	Silvor and Coppor-plating Searchlight Reflectors	170.02
600-11	Automatic Star Gamge for Ordnance Dept.	\$ 68.61

## Naval Consulting Board and Related Wartime Research Papers Subjects -- Jones Point Experimental Laboratory (1918)

at nexperimental elains correspondence relating to war research conducted an experimental alboratory of the American Potash Corp. at Jones Point on the lower Hudson River. In addition to Edison and his sesistant, William H. Meadowcroft, the main correspondent is Richmond Levering of the LY Bureau of Investigation. Included are items dealing with Edison's ideas for measuring the height of seaplenes over water and with the compensation of employee Bruce R. Silver, who was working with Walter T. Scheele at Jones Point on incendiary devices. One report by Silver has been selected as a representative sample.

Approximately 10 percent of the documents have been selected. The items not selected include additional reports by Silver and by Capt. Paul Brinton of the U.S. Army Ordnance Corps, which were sent to Edison by Levering.

W York, HJY. June 14th, Mr. Wm. H. Meadowcroft, c/o Thos. A. Edison, Orange, H. J. Dear Sir: I have received your letter of June 13th, and have already written to Washington asking the Department of diready written to usually build have advise we should mean Justice to make the request which you advise we should mean from Secretary Daniels in connection with Mr. Silver's components pensation. I enclose herewith for Mr. Edison's information copies of the reports of Lr. Sliver; of Gaptein Birthon-ropresenting Lt. Col. Regedale, Army Ornance, and Lt. Gra-representing Lt. Commander Wilkinson, Havy Ordanace on work done at Jones Point. We will from this time on send you regularly from this office, the semi-weekly reports and any special reports which are made. It might interest you to know that Jones Point has of the incendery darts, and from the Havy to fill the first shipment of twelve of the Mark IV bombs with incendiary Col. Regsdale has also informed us that he plane now to use "Helline" in the trench morters and flares as well as in the incendiary bombs and darts. on which we would very much appreciate kr. Saison's assistant for that the these to a form of indicator that will show when don't tack with the water is established, by means of some wire stading to the comments of the water is established, by means of some wire some wine to be trained below the gather of the comments of which we want to be trained below the gather of the problem. The water was the said that is the water water to assist us in the metter. could best be taken up in person. In order to avoid reading through the whole mask reports, unless desired, the report of Captain Brinton, day 21st, gives the most connected story of the work, and contains the following comment on "Scheeleite" which has n

Department of Instice,

Tauged to higher plane Communities and all handfall

-2-

been renamed "Helline":

"It is believed that all who saw these two tests agreed that they were the most remarkable incendiary effocts ever witnessed, and the efficacy of the combination of the Scheeleite and crude oil seems established beyond doubt."

It might interest you to know that after trying dozens of materials, it was in. Silver's suggestion that incorporated the materials it was in. Silver's suggestion that incorporated the materials in the materials of the materials eadinst danger from premature ignition by stifle bullets.

I remain.

Very sincerely yours,

For the Department of Justice.

RL/E.

ADDED IN PRI BY MR. MBADOWG00PF.
P.S. I see by the reports that they are experimenting with Liquid air. I have had a little experience with it. You might advise the experiments that a bunch of oily waste, well saturated with Liquid air and confised in a piece of iron pipe, will, explode violately. Perhaps they know this already.

Juno 18,1918.

Hr. Richmond Levering, Buroau of Investigation, Department of Justice, 120 Broadway, Hew York, H.Y.

Dear Sir:-

I received your confidential letter of the 14th instant, with the copies of the reports therein mentioned, and have shown the same to Mr. Edison.

He will be very glad to be of assistance to your Degas thant in the natter that you mention and sishes me to tell you that he will be glad to see you or any other person detailed for the work at any time. I would suggest, heaven, that before coming out me I would suggest, heaven, that before coming out me I would suggest, heaven, that before well as the control of the control of

ir. Ediaon also wishes me to say that he suggested to the Commander of the lightenship corps the use of a double wire cord having a lead ball attached six feet from the oud, to be carried by a hydroplane. The two ends of wire coming in contact with the salt water would close the sixcuit of a vibrating bell. The Hydroplane Corps desired such an indicator to tell have for they were above the sea when about to lead, as it doesno direct the tire this our contact with the salt of the sa

Yours very truly;

## Bepartment of Instice, Bureau of Investigation.

New York, H.Y. June 19th, 1918.

Mr. Wm. H. Meadowcroft, Assistant to Mr. Thos. A. Edison, Orange, N. J.

Dear Sir:

I have received your letter of June 18th, and will try and arrange an appointment by telephone, to see Mr. Edison Thursday or Friday.

ascurate gauge on the height of the hydroplane above water, I have found it impossible in practice to use a wire such as you describe, and doubt if we can carry a lead ball as suggested. We have tested every size of wire down to almost hair size, and find that the friction of the water make the wire jump shead, and the corn in the smoothest water. In the apparetus, on which I am working, I use a 35 gauge steel drill sten, rad could of occurse, substitute opporr or brass. This rod also jumps on the water, but does not travel forward and taugle.

some rather device at the upper end of the rod, or something similer to the rather switch on an electric bulb which will alternately make and break a circuit earth of the rather switch on an electric bulb which will alternately make and break a circuit earth of even this light steel rod is very violent at a speed of 75 miles an hour or over.

I here noted your comment concerning the mixture of liquid air with oily wate, to be used explosively. This is one of the combinations on which we are working, and is, I believe, the one found most astisfactory in blesting work. We are also using charcoal and other mixtures of similar nature.

I believe it would be a very excellent idea for

Mr. Wm. H. Meadowcroft.

-2

Mr. Silver and you to get together on these experiments, as the Havy Ordnance are sending us all the information they can gether from the Pronch Government and others, on which to concentrate experiments at Jones Point.

Yours yery truly

Violem and Jeferry For the Department of Justice.

RL/E.

### Department of Instice, Bureau of Investigation.

Hew York, H.Y.
June 21st, 1918.

Mr. Vm. H. Meadowcroft, c/o Thos. A. Edison, Orange, N.J.
Dear Sir:

I enclose herewith, for your information, copy of letter which I have to-day received from Mr. Bielaski, Chief of the Bureau of Investigation, Department of Justice, concerning compensation of Mr. Bruco R. Silver.

Chulled Alvering
For the Department
of Justice.

Department of Justice.
Bureau of Investigation

June 18th, 1918.

W.M.O.

Richmond Levering, Usq., 120 Broadway, New York City.

Dear Lr. Levering:

In reply to your letter of the 14th inst., I beg to advise you that the Scoretary of the Havy has been requested to authorize the payment of Er. Bruce R. Silver by Thos. A. Edison, as hereto-fore.

You will be informed of the result of this request.

Very truly yours, (Signed) A.B.Bielaski. Chief.

## Department of Instice, Bureau of Investigation.

120 Broadway City. July 16,1918.

ir. Thomas A. Edison, Orange, New Jersey.

My dear Mr. Edison:-

I um enclosing herewith report of progress in the Jones Point Experimental Laboratory for the period July 4 - 14,1910.

Yours very truly, For the Department of Justice.

RL/H

From:

Bruce R. Silver Richmond Levering, Eeq., Dep't of Justice, New York

Subject:

Report of Progress in the Jones Point Experimental Laboratory for the period July 4 - 14,1918.

Sorgount T. A. Bulifant and L. E. Ashim of the Chemical Corpe reported on Wednesday, July 10th, and have already rendered very considerable erroice in carrying out the tests. Their general familiarity with the methods and requirements of experiments made at the American University Experiment Station indicates that they will prove valuable ansistants in the Inture development at the Jones Peint Laboratory.

#### Problem 1 - Incondiary Darts:

For the nake of definiteness, it has been decided to reduce the amount of incendinry material in the dart case to 9 inches, and work on delaying the combutten to one minute. The reduction the amount of the observe has been made on a result of the suggestion found in Cal. Regarded to latter outside the combustion of the combust of the many began and the combust of the many began to the combust of the many began to the combust of the combu

It is our impression that the darks, when dropped from several through feet, will tend to crush near the base of the light paper tube, and wise, in the ignition of the main portion of the material. We have, therefore, made up for toote a new model in the small bombn, which we hope will be comewhat more substantial and more poetive in the firsting device.

#### Problem 2 - Experiments with Liquid Oxygen:

Lieutoment Armstrong'n report to the Ohief of the Durenu of Orinance of the Navy has been seen with a grout deal of incorrections of the Navy has been seen with a grout deal of inmace on July 1 at Jence Point. There is one disuppointing feature however, which we feel justified in re-opening for discussion, and that concerns the opinion that liquid oxygen is entirely out of the question se a naval oxplosive. There seems to be some sinconception in Lieutoment Armstrong's lutter to ir. Lovering under date of July 5th., which we feel should be good to do that the use of liquid oxygen as a naval explosive for dopth charges would require installation of a unit abound eithe space routired for such a unit, the time of menunt for production, and the horse-power necessary, and the difficulty of manufacture, is considerably over-estimate.

\_0\_

MMS - HI Mere are the facts: The space necessary for a unit on the Claude system, for the production of approx. 2.5 litres per hour of liquid coyen is 6 x 3 x 11; the time classes for production is not more than 15-30 minutes after starting up a twenty-five H.P. motor would take care of the operation of such a plant. There is the further argument that an inetallation of the sort could entirely de sway with existing refrigeration plants, in that the evaporating air could be used for the antique of the compensation of the continuous and general refrigeration abount. Mose of furnishing and general refrigeration abount, these of furnish in edition the inetallation would answer two purposes, and armed in selection the the refrigeration the beginning of an extremely powerful explo-

On the other hand, we agree that considerable week must be done particularly an efficience to the development of constainers, and the second of the second of the second of the material. With regard to the latter point, the evidences are that the manipulation is extremely simple, with few precentions necessary. There is the further advantage that in the application to make and edition, the whole charges, which might fail to explode a second of the time, the whole charges becomes incommon after a lapse of an hour

A repetition of teste made on July 1, together with tests of the etability of the explosive will be made today.

### Problem 4 - Wing Dope for Aeroplanes

Samples of the wing dops applied to tried lines, coppor and tin plates are being submitted to haval Constructor. I. C. Hunescher, of the Bureau of Construction and Repair. These samples will be forward today. All the tasts have an applied with reforement the theory of the proof of the proof of the transport of the sample will be subject to the opposite of the dops in the last report, the basis of the dops in Cum coppal in othylamtiylations. We have decided to give an additional protection in the way of firepreceding by giving two context of potential the transportation of the fine of the context of

## Problem 9 - Hexamethylene in Flares and Rockets:

Hexamethylenotutrumine with sedium peroxide gives, as we have pointed out previously, a yellow finne, which is almost impossible to the very way with sells, so that we could expect the way of development of red, white and green firms with this satture. On the other hand hexamethylenetermaine altrate when combined with ealts offers very positive encouragement along this line, and possesses some very interesting properties:

 The flame is high candle power, and burne for a long interval for a small quantity of material.

-3-

BRS - RL

2) The nitrate readily takes on the coloring of various volatile selts.

We look forward to the solution of this problem in accord the salts of haxamothylenototranine, but at the present we are not roady to give anything definite in the way of a report.

# Problem 6. Haxamethylenototramins in Explosive mixtures:

Pollowing up the chemrention of last wook, that hoxemethyleenterrantne was completely attented inliquid coxygen, we enterrantne was completely attented inliquid coxygen, we of atternating the oxtest of attention of the material alone, with the sid of a booster. The detenanter and beceter were encoused in a tube 3 1/4 long, which could be incerted in the base of the shell, and made purfootly tight. With a life of attentor, and a gream of THT, we ware or less completely, 30 grams of hoxemethy control in a number of pieces. A repstition of this test will be made today.

The opportunity for the continuation of tests of varying proportions of hexa and sodium peroxide has presented itself, and we hope to be able to decide on the optimum proportions at an early date.

The proparations of and explosive tests of various compounds of hexamothylenetetramins has been continued, and will be reported on shortly.

(Signed) Bruce R. Silver.

Jones Point New York July fifteenth 1918

#### Naval Consulting Board and Related Wartime Research Papers Subjects -- Ships and Coal (1918)

This folder contains correspondence relating to Edison's attempt to encourage reciprocal trade in Cuban sugar and Alabama coal in an effort to alleviate local shortages of both. The correspondents include W. M. Clemens, secretary of the Mobile Chamber of Commerce; George E. Crawford, acting mayor of Mobile; Albert C. Danner, president of the Mobile Coal Co.; Edward N. Hurley, chairman of the U.S. Shipping Board; Henry H. Morgan, a U.S. representative in Cuba; railroad freight agent J. S. Taylor, and officials of various shipping companies. Much of the correspondence was carried on by Charles B. Hanford, one of Edison's assistants at Key West, Florida.

Approximately 40 percent of the letters have been selected, including all documents reflecting Edison's personal role in the planning process. The unselected litems include correspondence with the owners of private vessels, shipping companies, and commodify dealers, along with the numerous copies of a March 18 form letter explaining that Edison had turned over responsibility for making trade arrangements to the U.S. government. One copy of this letter, sent to the Pensacola Maritime Co., has been selected as a sample. Also unselected is correspondence pertaining to freight rates, markets, hypothetical shipping plans, and other technical matters involving Hanford but not Edison.





February 8,1918.

Mr.Thos.A.Edison,

Key West, Fla.,

Dear Sir:-

In view of the inquiries made by you to the mayor here; we take the liberty of informing you that we are the principal coal handlers in Mobile, are representatives of large mining companies in the Birmingham district; and, also, this winter, owing to the demand being so great upon us, we are bringing some coal here from Illinois.

our principal business here is supplying bunker coal to steamers, and some of the coal in Alabama has proven to be equal to any coal in the world for bunker purposes.

We tender our services to you in case we can be of any use.

Very truly,

Mobile Coal Company.

President.

# **GTY OF MOBILE**Board of Hommissioners

HARRY PILLANS WATER WORKS, STREETS, DOCKS AND PUBLIC WORKS PAT J.LYONS, MAYOR-PRESIDENT POLICE, FINANCE & PUBLIC PROPERTY S.M.HENDRIX, CITY CLERK GEORGE E.CRAWFORD FIRE, HEALTH & SAHITATION

February 9th, 1918.

Hon. Thoe. A. Edieon,

Key Weet, Fla.

Dear Sir:

Replying to your telegram of yesterday, I sent you two

wires, which I desire to confirm as follows:

"Ye, Alahams mines about eixteen million tons per annum of high grade coal, and quantity increasing, a good part of which comme to bobile deliy by rail and river. Demand now great. Price at mines per net ton of two thousand on great. Price at mines per net ton of two thousand politics on of from Three dollars seven per the to Mobile one dollar ten stry-five cents, on cars. Fright to Mobile one dollar ten

"Further replying your wice this date, have ascertained much attean coal mined on marigable waters of Warrior River and one of the largest mines behardeleben on Frieco line treelve miles from head of navigation. Inter very high grade steam coal, Freemi, and a sequipment of the coal of the sequipment of the coal of th

Supplementing the above, will say that I have reliable assurances that large quantities of coal of the best grade can be furnished in Mobile ac easily and with as little or less cost than at any port on the Gulf Coact.

Coal is brought here by three railroade, viz: The Southern Railway, Mobile & Ohio Railroad and Louieville & Machville Railroad, and besides thie, coal ie acceesible to Mobile by the rivers.

As I stated in my telegram, any further information or details will be gladly furnished you upon request, as the City and Chamber of Commerce have complete and reliable data along the lines concerning which you inquire.

Yours most respectfully,

Jeorge E. Coawford

P.S.

The trelve-mile haul from the "P" mines is a rail haul to barge, for which I understand is charged a thirty-five cent rate, which, with five cente for trimming and about sixty-five center for water carriage, brings the freight to Mobile to a parity with the rail rates, but this thirty-five cent rate should manifestly be reduced to enourage relief by barges to rail. I enclose herewith letter just received from Secretary Clemens of the Chamber of Commerce of



Mobile, Ala

February Eighth 1918

Mr. Geo. E. Crawford, Acting Mayor, Mobile, Ala. Subject: COAL AT MOBILE VIA. WARRIOR

My Dear Mr. Crawford:-

am informed by the Fratt Consolidated Coal Compuny, which bring coal both by water and by rail from its mingham District, that all large contracts the Simingham District, that all large contracts the proceedings of Cover

The present Government prices delivered to steamer at Mobile is \$7.00 per ton for foreign shipment and \$5.65 per ton for coastwise or other shipment.

which you understand is only one of the coal companies operating here, are such that delivery of cargo coal could be made at the rate of about 250 tone per hour. Bunker coal delivery yo calier while stemer is loading cargo from pier could be placed at the rate of from 100 to 150 tone per hour, according to the size of the stemer and arrangements of bunker space.

Under present conditions the cost of coal at this point would be irrespective of whether its transportation from the mine is by rail or by water. This condition, of course, does not obtain in normal times when delivery by water is very much cheever.

There were shipped through Mobile, not including the amount that either came here for domestic use or was placed in stemmers either as carge or bunker coal, about 53,400 tons viathe Warrior River. This was eall high grade steam coal, suitable for bunker purposes.

As you are already obtaining from another source inown formation as to the facilities of the Mobile Coal Company and were wither Kimmern Coal Company, I will not attempt to cover that

#### MOBILE CHAMBER OF COMMERCE

2 -G.E.C.

It is of interest to compare chemical analysis and calorific value of Alabama coals with Pitteburgh and Virginia coals; Edgewater (Pratt) is unwashed lump; Lipsey and Brookwood coals are washed run of mine, Pitteburgh is unwashed run of mine, as are also New River and Pocchontas coals;

	Edgswater(Pr	att)-Sipsey-	Brookwoo	d-Pitte	.N.Riv.	Pocahon	Ł
Moisturs Volatile matte		1.62 34.12	36.1		1.61 27.16	0,73 18.10	
Fixed Carbon Ash	66.13 5.04	61.76 2.51 100.00	51.9 12.0 100.00	57.49 9.91	67.54 3.69	74.52 6.65	
Total Sulphur	100.00	0.80	1.0		0.68		
B.T.U.	1.49 14863	14960	13000	2.09 13580	14970	0.50 14588	

I am enclosing for your information a telegram that I have just sent to Mr. Thos. A. Mison, urging that he come to Mobile for a personal inspection, and stating also that if a personal trip is impossible we would welcome the opportunity to supply him with full information regarding Mobile, not nerely from the standpoint of fuel but also from many other standpoints, with especial relation to shipping and shipbuilding.

Any further service that we can perform in this matter, the full possibilities of which are unknown, will, I assure you, be rendered as promptly and efficiently as possible.

Yours very sincerely,

MOBILE CHAMBER OF COMMERCE,

General Secretary

WMC. K

United States District Court, IOHN M. CHENEY. Sauthern District of Florida. Original Estimate Cost of vessel = \$5000.00 Feb. 11, 1918 Interest at 5% = 250.00 Depreciation = 500.00 = 3600.00 , 1800.00 Rations (5 men at 50 cents a day) Dotal cost for I year 5550 00 Suppose 20 tripo as made. 307.5 cat for tip --- 278,00 Pulstage Mobile 6.00 . Havanna 1500 6-50 Portwarden cotputip ---Coal 80 lons at 5,90 .. 472.00 Unloading 80 tons et a25 . 20.00 Cost per trip - - -Istal cost partrip including depreciation wages pulet charges and coal Boal 80 tons Soldat 1500 aton: 1200.00 Profit 377 406.00

per gierr

Suppose 125 tono Profit = 1006.00

Esternate Submittee to U. S. NAVAL STATION Cafet J. L. Wank KEY WEST, FLA. Achroner "M ax it -CRT of resert: 10000.00 John Lapez agent. Interest at 5% 500.00 Defrecation 3600,00 Wages Rations 6900,00 Suppose 20 trips are made 3 4 5.00 Cost per trip Pilot mobile - 600 Havama 15.00 27.80 Portwarden . 6.80 Coal 95 Come at 5.90: 501.50 5-22.72 Unloading 85 " " 895.52 Islat car for 1 trip - - . 136000 85 tons Jeore worldat 16.00 464.45 Profit

J. S. NAVAL STATION

Mr Edison guarentees interest degreciation of vessel wages and rations of crow harbor changes and a profit of 3.00 a ten making a total of 5.50.00 in case the vessel is delegat in book through any failure on the part of Mr Edison, Mr Edison promises to payfor such delay at 21.00 a day.

Depresentin 50
Wages 180
Rations — 90
Pilots — 28 of 2 per ton profit 160

1/80

Southern Pistrict af Florida.

JOHN M. CHENEY,

Amited States Bistrict Court, F6.

Feb. 12, 1916.



#### CONFIDENTIAL

Hr. Geo. E. Granford, Asting Physic of Mobile Als., Mobile, Ala.

Sir:

On accessive of published conditions in this due to lack of food and lack, it to very important thus Ouba should receive some coul tien she is now gesting, otherwise our supply of the segme say be endangered in the feture.

alling runs do more specification of several state of the results of several state of the content of the several state of the content of the several state of the several state of the several several state of the proposition of the several several

It is very important that the quality of the coal should be the boot grade so the Cubent will be pleased with it and hope in the state. I as to furnish the coal should not all sold it through fire. Indeen it is not for marginated by unreasonable delay in losting and unleading. I understand best grade coal at Hobits [94, 60 and \$1.10 freight, or closely through its.

Would you please arrange that in once I com get the boats, they can be leaded brought a reliable to the property through a reliable of the property of the property of the property of the pay for same f.o.b, boat and I will arrange with a benk at Hobits opay for same f.o.b, boat and I will telegraph you as soon as boats leave for Mobits.

The Beason E only use small boats from 50 to 200 tons is for the reason that larger boats are source, whoreas there seems thank the provide the smaller ones, the seems thank the seems that the seems th

#### 2 - Mayor, Mobile 2/12/15.

Another thing you could which would be of great value and that is to take it up with the Sugar Refining People in New Orleans and the Molasses People in Mobile, the availability of these beats for a return cargo to Mobile of Ear sugar or molasses.

If you can make these arrangements, please give me full commercial data as to freight that can be paid on sugar and molasses and the coal arrangements you can make with as little delay as possible.

Very truly yours,

Continued Wager of Machine Con due to of followed Conditions in Cuba Con a content of Took of food a fuel it is very involvent that there is housed success wines and than - he have now felling otherwise our ser ply of our stime. of vereza is Section flowers of 100 for Capacity to make round Trop from a himmun profit per toward coal delivered in took I hater Papersunder present Thipsy throughout above to the proof Ixhall do This with a sumber of boats to get There water the brande

of the Crot should by the best grade to the Cubians will by pleased with it while the present with it

I am to James (ithe that to the faction will sell of things We Margan 110 food Manuscran at Harrian I also quarantee agreenet any uneconsens of say in a sadding or wall a series -) readraction boot from a Cost, at Melde. 4, 10 4 110 Crowned, or cloudy thereto, Welled you girle that in Cook Ferring of the words Augustes weenspily their eight a colonier dealer + one who will give the highest Grade, I you can do this I will at range with a Brak of Marie to prof Drine GOB boot + 1 will be as seen as boats Leave for Matite, The tumor I outif use simace toal Iseren 80 To 200 for the securon That larger boots are barriory is horas There ocems to be planty of the smaller ones

England, otter the feeting , ceft in 1917 wed the East, 56 To/3 tear in Coding Coal warner the English Chromos tot a port colore (60) burnisage 21-00 125 Glace . 1000-Muy consider in consequent queactly 2 William Town of not a sort and Another Thing you could do which would te al great value + that is to like of upled ECG the Degree Polenium & 1942 In h Or Careno + The Marcon beater in Machin, has severismosto Allerer Gral for a return Cargo to Medine of Raw Rugar Solar Walders -If you are I make there are a marine please give me full Commercial data as to didn't that can be waid on Sugar & Malaries & Che Coal aforage you Com near for with a Little Rolling as possible

# **CTY OF MOBILE** Board of Hommissioners

HARRY PILLAN S WATER WORKS, STREETS, DOCKS AND PUBLIC WORKS PAT J. LYONS, MAYOR - PRESIDENT POLICE, FINANCE & PUBLIC PROPERTY S.H. HENDRIX, CITY CLERK GEORGE E.CRAWFORD

February 15, 1918.

Hon, Thos. A. Edison,

U. S. Naval Station,

Key West, Fla.

Dear Sir:

I have yours of February 12th, and will immediately proceed to obtain the information that you desire.

I expect to confer with the Mobile Coal Company and the Chamber of Commerce in regard to the matters that you mention, and possibly they will write you direct, as I may find that it will be better for them to do so than for the information to come through me. I shall, however, ask that all this be treated as confidential by them.

Please feel free to call on me at any time for any service I can render, because it is a pleasure for me to do so.

Yours very respectfully,

Leonge E. Compos

DANNER
USE WESTERN UNIC



February 15,1918.

CONFIDENTIAL.

Mr.Thos.A.Edison, U.S.Naval Station, Key West,Florida,

Dear Sir:-

Mr.George E.Crawford, Acting Mayor of Mobile, has asked me to reply to your letter under date of February 12th., in which you outline a plan of delivering coal to Guba by the use of small salling vessels.

I am sure that this plan cam be most successfully carried out.

The time consumed in loading coal into one of these small vessels would not be more than two or three hours, and several could be loaded at the same time when necessary.

High grade coal in amount up to 1,500 or 2,000 tons per day could be furnished.

The price of the coal trimmed in the vessels

would be the price as fixed by the fuel administrator, with freight, war tax and handling charge added, which at the present time totals \$6.10 per ton of 2,000 pounds f.o.b.and trimmed in vessel.

The Mobile Coal Company carries in stock at Mobile at all times several thousand tons of coal, and are in close touch with the mining section.

This business, if entrusted to us, would receive the most careful attention of the officers of this company, who are greatly interested in your plan, which, as before stated, I am sure will be most successful.

The information in the last paragraph of your letter pertaining to return cargo of sugar and molasses will be forwarded to you by Mr.Geo.E.Crawford.

Very truly yours,

Auch anner

Vice-president.

## Mobile & Ohio R. R. Co.--Southern Ry. System

### Foreign Freight Department

J. S. TAYLOR
FOREIGN FREIGHT AGENT
MORLE, ALA.

JACKSON ASSISTANT FOREIGN PREIGHT AGENT Mobile, Ala. February 16th, 1918.

Mr Thos A Edison, oare U.S. Naval Station, Key West, Fla.

Dear Sir:-

These wine ( French of the form of the

Replying to your confidential favor of February 12th."

addressed to Mr Geo E Crawford, Acting Mayor of Mobile:

Mr Crawford has asked me to answer your letter for the reason that I have been connected with the handling of traffic to and from Cuba for a number of years.

To be entirely frank with you, your proposition does not appear to me to be a practical one from a commercial standpoint. Your idea, however, in my judgement, is entirely feasible, if the profits to the schoomer can be taken care of by either you or the Government, as suggested in your latter.

In the first place, Mobile is connected with the coal fields of Alabama both by railroads and by navigable rivers. The coal deposits in the Birmingham district are unlimited, and the coal is of excellent quality for steam-making purposes. The short railroad line Birmingham to Mobile is 862 miles. The rail freight rate from the Birmingham district is \$1.00 per ton of \$0.000 pends. This freight rate includes the coat of dumping the coal into ships hold over coal tipples. The Southern Railway has a coal tipple at this port with a cepacity for handling seven to eight hundred tons per day. The Louisville & Mashville Railroad has a tipple that

will handle about 1,500 tons per day, if the tipple is worked day and night, which can be done. The rail freight rates over both lines are the same.

During the year 1917 there was handled from the Birmingham destrict about 80,000 tens of coal, in self-propelled barges from points on the Warrior River, thence vin the Alabama River to Mobile. The 80,000 tens was used in Mobile for ship bunkering purposes. Coal can be transported by water from the Birmingham district cheaper than by rail. The exact cost of water transportation I am unable to state, but I should say not exceeding sixty or seventy cents per ten. The barge lines, for reason unknown to me, have for the present been discontinued. It is my understanding, however, that the barges are available, and can be put back into operation on short

The most serious obstacle to your scheme is finding return loads for schooners to Mobile. If the boats have to return light of necessity the cost of ocean transportation would be practically doubled. There are, however, two chances for return cargoes from Havana and other Guban ports for schooners. The first, and most probable return cargo would be blackstrep molasses. The port of Mobile last year handled about 75,000 tone of blackstrap, principally from Otha. This blackstrap is handled to us in tank ships, and pumped into storage tanks at Mobile. These cargoes are brought to us in chips that bring about 8,000 tone. The storage tanks at Mobile will hold about 25,000 tone. A ship with 8,000 tone can be discharged from ship ty tank within ten or twelve hours. The blackstrap is moved from tanks into tank cars by a pumping process, which is a very economical way of handling it. It is estimated that the cost of transportation, even at the present high price of ships,

from Havana to Mobile, on blacketrap, ie 12¢ per 100 pounds. This cost includes the expense of returning the ship from Mobile to Cuban ports light.

The other possible commodity to move from Cuba to Mobile is asphaltum. There is quite a valuable deposit of asphalt at Mariel Bay, 40 milee west of Havana. It is owned by British capital. The International Asphalt Company, of Chicago, at one time controlled the Mariel deposit, and imported through Mobile some twenty-five or thirty thousand tons per year, refining the asphalt at this port. About three years ago, however, the refinery here was shut down on account of some legal complications between the International Asphalt Company and the owners under the contract existing between them. It is my understanding, however, from recent information, that the refinery here could be re-opened but for the extreme high ocean freight rates now existing. Based on the information contained in your letter, I have this morning wired the International Asphalt Company, asking if they could re-open their plant here if a reasonable coean freight rate was obtainable. I will advise you of the nature of their reply.

Referring again to the question of blacketrap: The difficulty in handling this commodity in cohomore, as I see it, would be the question of returning the empty barrels. All of the cohomore space under deck would be taken up with coal on return tripe, and barrels could not be loaded safely on deck of a small echomor.

Notwithstanding what I have stated about the blackstrap proposition, there was handled to this port from Sagua la Grande, "Ouba, on July 5th, 1917, 997 barrels of blackstrap, aggregating 389 short tons, in the Schooner DAVENFORT. This blackstrap was distributed in barrele by rail to interior points. We now have at our dooks the Schoomer CHAMBERLAIN, from Mansamillo, Gube, with 1,200 barrele of blackstrap, or 396 short tone. Five hundred barrels of this lot will be distributed to the interior in barrels. The remaining 700 barrels are now being pumped into the storage tanks at Mobile. This pumping process from barrels is an experiment, and if successful will largely solve the question of return cargose.

I am comfidentially informed that the movement of blackstrap through the port of kobile for the coming year will probably aggregate 150,000 to 175,000 tons. I furthermore know that tank ships are as source as other kinds of ships, and am therefore inclined to believe that a contract can be made for return cargoes of blackstrap, if the pumping process from barrels to tanks is a success. I have gone into the details of this question of return cargoes rather fully, as on this one feature rests the question of carrying out your idea to a successful business conclusion.

For your information I will advise that Mobile is the largest port of export in the United States for yellow pine lumber. Such being the case, lumber cargoes are always available, and all eatling oraft are now wery much in demand for the lifting of yellow pine lumber. The present lumber rate by schooner from Mobile to north side Guban ports is about \$20,000 per thousand feet, which would be equivalent to \$10,000 per ton. I mention this feature, as the rate on lumber would have a very material bearing on your rate on coal by schooner. The schooner rate quoted, however, is based on returning light to Gulf ports in the United States. In some cases of memory, the satiling boats are returning to us with cargoes of mahogany from Mexico, and logwood from certain of the islands of the

West Indies other than Cubs, such as Haiti and Santo Domingo. If oargoes, however, could be assured to schooners both ways, the cost of transportation on coal by water could be materially reduced under the present quotations.

In your letter you make reference to a reliable dealer who could promptly load and handle your schooners. In this connection I would suggest the firm of Jas Cibboney & Company. Jas Cibboney & Company are ship brokers, and were for a number of years agents for the Eunson Steamship Line, which company, for the last seventeen years, has maintained a regular steamship service between Mobile and ports in Oubs, as indicated on the esiling card I stack hereto. Their former connection with the Kunson Line makes them thoroughly familiar with all of the intricacies of handling Ouban traffic, both to and from the island. In addition to the experience that the have had with the Munson Line, they have been in the coal handling business for the last fifteen years, at times handling export coal, but more particularly supplying steamships at Mobile with bunker coal.

If you should desire additional information, or think that I can be of service to you in any way, I am at your command. In making this offer I want to assure you that it is purely on a patrictic basis. I am too old to shoulder a gun, which I regret. I have just passed my fifty-seventh birthday, but am strong and vigorous, and more than anxious to serve my country in any way possible. I make this statement to you feeling that the same sentiments prompt you to relieve the coal situation in Guba.

I consider it an honor, and therefore a pleasure, to be able to address you this letter.

Most sincerely yours,

Copy to:

Copy to:

Mr Geof E Crawford, Acting Mayor,

Mobile, Alabama.

B. O. London

P.S.: Reese Eutchinson was my near neighbor from infancy to young manhood, and I am very fond of him and proud of him.

"DANNER"

USE WESTERN UNION
(UNIVERSAL EDITION)
ON
A.B.C. CODES.



MOBILE, ALA Feb. 18, 1918.

Mr.Thos. A.Edison, U.S.Naval Station, Key West, Florida,

Dear Sir:-

In further reference to the matter of coal for Cuba; we wrote you under date of the 15th.inst.

We now beg leave to call your attention to the matter of a possibility of shipping coal directly from the mine an Ashama to Guba by the Florida East Coast Line ferry, and we have written to Mr.A.C.ELECT and ferry, and we have written to Mr.A.C.ELECT as matter; though, we think that your in regard that matter; though, we think that your idea of sending the fishing fleet here to be leaded with coal is something more to be depended on.

It, of course, would not be economical to handle coal on such small coats; but, they would get the coal across (particularly, in the boats were sent in effect to be to the boats were sent in make regular on the bugboats). They would then make regular on the tips and, if they struck bad weather, the bugboats could let them loose and they could take care of themselves, as they are no doubt see-worthy.

In this connection we will mention that there are some realy good fishing boats here for sale, the fishing company having substituted steam fishing boats for the sailers.

We have this morning letters from Havana and other points wanting coal for Cuba.

Of course, we have not mentioned to anyone the fact that you are interested in the matter.

Very respectfully,

ACDanner, PRESIDENT

ELLIS KHOWLES, VICE-PHES.

HENRY M. YONGE, SECT.TREAD

A GREENDLAT, MANAGER

PRATTY AND "CHEROLA"

### PENSACOLA MARITIME CORPORATION

Brokers for Sale and Purchase of Steamers and Sailers STEAMSHIP AGENTS AND SHIP BROKERS COAL FOR EXPORT AND BUNKER

PENSACOLA, FLA. February 19th, 1918.

Mr. Thomas A. Edison, United States Naval Station, Key West, Florida.

Dear Sir:-

We have your circular of Pebruary 18th, and in reply beg to state that the owner of the Tug "PRITABILIA" is open for a contract for a period of time, between the from Mobile, Pensacola or any other place you would desire to Havana. This owner has a consort barge of 800/1000tons with the barge above mentioned quantity of coal from a Gulf Port to Havana. Please state what rate and for how long a period of time you could use this tug and the said barge, on the Government like Charter basis.

Yours very truly, PRNSACOLA MARITIME CORPORATION.

Dπ

Manager.

February 20, 1918.

Mr. J. S. Taylor, Foreign Freight Agent, Mobile & Chic Reilway, Mobile, Ala.

My dear Sir:

Your kind letter of the 16th inst. received. The information contained therein is valuable and the details you have gone into are greatly appreciated and I thank you for the same. They will be very helpful to me. I would like to know whether these smaller vessels can get insurance in the usual way. If not, it may be possible to get Government Insurance for vessels engaging in this trade.

Eutchison is as lively as ever and is doing an immense amount of work.

Very truly yours,

February 23, 1918.

Mr. A. C. Danner, Mobile Coal Co., Mobile, Ala.

My dear Sir:

Mr. Edison has not the time or desire to enter into the case as sugar maniess personally beyond a demonstration trip to show that it on be described by the profit; and to encourage others to display brancally. He has even made offers to save any most of the profit of the case of the profit of the profit of the case of the profit of the profit

The above being the case you can understand that in. Edison would not be interested in any bosts for sale as he has no intention of engaging in the trade personally for profit.

He is also investigating the matter of getting return corgoes for a lot of boats that carry lumber to Cuba and return light because they can get nothing to bring back, when every boat that

Mr. A. C. Danner .- Feb. 23, 1918.

can should bring back raw sugar or molasses and make full use of the energy lost by returning light.

Your suggestion in regard to the use of tugs is a good one and thore are tug and ship owners who have of both that ought to be interested and should got busy on this trade from a purely business stendpoint. There is unquestionably a good profit in it.

Very truly yours,

C, 9 7 A A B. E.

Dhy cound your line Garry.

Why cound your line Garry.

dock to add of and from the bags to Havana, price when the stand of the stand o

Telegram 70 Monson Skindy lân
Feb 27 82 Begins St.
New Jork
Suggest
Cost Mith & Harring



Mr. Thos. A. Edison, U. S. Naval Station, Key West, Fla.

Dear Sir:-

Referring to our recent correspondence I found on inquiry that Mr. J. S. Taylor, Foreign Freight Agent Mobile & Ohio & Southern Railway, was furnishing the desired information in great detail, and therefore I shall not attempt to go further into matterso far covered by him.

However, in pursuing the question of return cargoes of molasses, concerning which I wrote the C. U. Synder Company, it appears that the Sugar Products Company, 69 wall Street, New York City, very likely will be interested, although the Cube Distilling Company of 40 Exchange Place, New York, is using tank steamers and probably would not be interested in the small sailing draft.

A representative of the Sugar Products Company happend to be in boble at the time sy inquiry was received by the G. U. S. see Company, and he expressed considerable interest, premising to take the matter up with his home office at once. Unless by reason of their close relations with Mr. Taylor, these people have no knowledge of the source of this investigation and will probably reply to kee, in that event I shall of course transmit the information at once by you.

Your letter to Acting Mayor Crawford was marked confidential and I have not felt at liberty to use your name in any of my own investigations, which include inquiries made to the railrade and other concerns looking to the possible devel-

Opposit of return cargoes.

CAMBERS CONSIDER
DESTRUCTOR ARRIVATION ARRANGES

Yours very truly, MOBILE CHAMBER OF COMMERCE,

COMClemens General Secretary

WMC. K

February 26, 1918.

Pensacola Maritime Corporation, Mr. J. Greenblat, Manager, Pensacola, Fla.

Dear Sir:

Nour letter of February 19th to in. Thomas A. Edison is at the Art. Edison has no idee of engaging in the soul and sugar trade personally nor has no idee of engaging in the soul and sugar trade personally nor has to induce the sum of the sugar which is not if for their own benefit and incidentally owners to it for their own benefit and incidentally owners to it for their own benefit and incidentally owners which is needed in the United States. His mod larger which is needed in the United States. His mod larger than the purely patrictic and not personal. The owners of ships and barges should get all the larger than the larger of ships and barges should get all thould be not be had from the since of the larger of the large

The reason Mobile is spoken of is that the return cargo of sur would be nearer to the refineries at New Orleans and the freight from there less than from Ponuscoin. The survey assertain what good quality coal can be obtained for at Ponuscoin and it might be better for the to start from there, and even return there if you could get a good market for your return cargo of sugar or malanses.

Very truly yours,

February 26, 1918.

Mr. A. C. Danner.

Mobile Coal Co., Mobile, Ala.

My dear Sir:

Inclosed please find copy of a letter received yesterday from Mr. Horace Turner of Mobile. The contents of this letter are rather discouraging after getting your letter of February 15th and I am at a loss to know why there should be such a difference of opinion upon the subject of obtaining coal, the price, facilities for transportation to Mobile, etc.

Will you kindly let me know whether in your opinion there is any reason for the view taken by Mr. Turner. I am endeavoring to get owners of sailing vessels and barges interested in this trade and have gone upon the assumption that there would be no difficulty in getting coal, as per your letter of the 15th inst. I will appreciate your advice in the matter.

Very truly yours,

### [ATTACHMENT/ENCLOSURE]

COPY

### TURNER TERMINAL COMPANY

Mobile, Alabama

February 21, 1918.

Mr. Thomas A. Edieon,

Key Weet, Fla.

My dear Sir:

### -: Addison E. Bullard:-

I beg to acknowledge receipt of your confidential letter of February 18th, inviting ship owners to engage in the coal trade to Cuba.

I will take the liberty of making certain auggestions, in regard to this trade, feeling sure that you want all the information possible upon the subject. Seing a Hoblitan, and intensely interested in this very coal problem, I want to assist in any way I can.

 There is no coal supply available at Mobile for the ships, even should owners desire to engage their shipe in coal trade to Cuba.

2. There will be no ocal amply within the next twelve months, at least, unless the Government ctops in and ocalets in solving the transportation difficulties, vis., provides suitable barges and towboats to barge ocal from Alabama mines to itohic The resilroads have been unable to furnish ocal cars and enginee to move all the ocal necessary for domestic and bunker purposes at Gulf ports.

5. It would be perfectly useless for ships to come to

2. It would be perfectly useless for ohips to come to Mobile to get coal, until some agency first erranges to concentrate coal at Mobile and then to sell ease to Cube. This agency is usually the large mine operators, operating through solling agents at the porte, on Bunkering agents at the port, who you from the mines and sell the coal C. I. P. to Cube. In other words, buy the coal, charter the ships, incure the cargo, and make the delivered price to companyer in cube.

other words, buy the coal, charter the ships, then to these argo, and make the delivered price to consumers in Gunner the eargo, the mines cannot, today, ship sufficient coal, the trage of care, engines, and crews, to eupply the domestic and bunker demand. The Bunkering Agente, therefore, cannot get enfficient coal to supply the local demand, much less the foreign demand. Accordingly a new source of supply must be found to eatiefy the necessary duesa demande. This supply can best be obtained by the use of joint rail and water route to Mobile, the coal on he switchied, in core, from mines ener the sirver to the coal can be switchied, in core, from mines near the sirver to care can be discharged upon burges, and towed to Mobile. There are come barges one switchield, there can be brought from other points, and the remainder must be constructed, and of wood insamnoh as teal construction is not readily obtained at this time. This

### [ATTACHMENT/ENCLOSURE]

will require hundreds of thousands of dollars, and the Government alone can afford this large investment at this time.

Ocal can be produced in unlimited quantities at

Cast can be produced in unlimited quantities at mines upon and near the river. The present car equipment, when used only in the short switch movement between the mines and the liver, can transport a great quantity of coal. The problem than it barges that it is proposed that it is barges that the problem of the problem o

locating ser cargo at the wherf.

The Bunkering Ageacies will buy the coal from the
mines, sell the coal to Oubs, and charter the ships to transport
coal from Hobilto to Oubs, once there is a supply obtainable. The
transportation between the mines and Hobilto presents has been
the coal, in the coal of the coal outside the coal
that coaling and to supply this link will mean a large can of money,
and little relief can be expected for Oubs until this transportation is furnished.

4. Mr. A. J. Mason and Mr. David Bontecon, of the United Steenes Shipping Board, are now investigating this very barge problem, and were in Mobile on Monday and Tuesday of this week. Their recommendations will no doubt be of considerable assistance to you in your efforts.

If there is anything that I might do at this end, in the way of furnishing information, etc., to assist you, kindly let me know.

/s/ Very truly yours,
Horace Turner
Managing Owner, "Addison E.
Bullard"

....

FLUIS KNOWLES, VICE-PRES.

HERRY M. TORGE DISTINES

J. GREENBLAT, MAHAGE

PRATT AND TORSEGNATE BRANDS OF BRANDS OF

# PENSACOLA MARITIME CORPORATION Brokers for Sale and Purchase of Steinners and Sallers



STEAMSHIP AGENTS AND SHIP BROKERS COAL FOR EXPORT AND BUNKER

PENSACOLA, FLA. March 1st, 1918.

Mr. Chas. B. Hunford,
U. S. Naval Station,
Key Weet. Fla.

Dear Sir: -

We have your favor of February 26th, contente of which we have carefully noted. We are very much in favor of Mr. Thomas A. Edison's ides, and you may rest assured that if we can do anything to induce the tug and barge owners to put their tomage in coal and sugar trade, along the lines indicated by you, our best will be done. Unfortunately, we, ourselves, do not own any tomage, and only act as brokers. We are placing the facts you have given us, before the owner of the "ERITAINIA" and other tomage, and hope to be successful in getting him interested.

Yours very truly,

PENSACOLA MARITIME CORPORATION.

Bv

Manager.

March 2, 1918.

Mr. W. M. Clemens, General Secretary, Chamber of Commerce, Mobile, Ala.

Dear Sir:

Your letter of February 25th to Mr. Edison has been received and the contents are noted with interest.

Mr. Taylor has been very kind and helpful in the matter. It is probable that the United States Shipping Board will take up this whole matter and that some good solution of the problem will soon be found. Some snip owners, we are informed, have begun to act and the Munson Line are now filling their spare oarge space with ocal, so that the fuel is beginning to move, and with the assistance of the Shipping Board and the Food Authorities we hope that Chab will soon be getting a good supply of ocal and the United States getting their raw sugar and schasses in return.

We shall be very glad to have the report from the C. U. Snyder Company when it comes.

Very truly yours,

For Mr. Edison.

CARLEAGONESS
"DANN ER
USE WESTERN UNION
(CHIVERSAL EDITION)
OR
A.B.C. CODES.



March 5,1918.

Mr.Thos.A.Edison, U.S.Naval Station, Key West,Fla.,

Dear Sir:-

For your information, in reference to the matter of transporting coal from Mobile to Havana, Cuba, the Wanson Line, running steamers from here, weekly, to Cuba, heve put into effect a rate on coal from Mobile to Havana, of \$7.93 per ton of 2440 pounds; requiring, however, that the coal we sacked.

The adding of the sacking charge, at the very high cost of sacks now, would make the price about \$4.00 per ton more, and cause the shipping of coal by this line prohibitive.

Another item which may be of interest to you is that the committee from Washington which I mentioned to you in one of my letters, has reported very favorably and strongly recommending putting in effect at once the plan of bringing coal down the Warrior River---a new 2.....T.A.F.

source of supply.

They recommend that the shipping board use two millions of dollars for this work immediately and that they establish the management at Mobile and provide here a large storage place for the accumulation of coal for supplying other ports in the gulf; but that does not provide for the ocean transportation, which is the serious problem just now, and the one that you have discovered and have been trying to remedy.

Yours very truly,

president.

REPRESENTATIVE IN CUBA

OF THE
FOOD & FUEL ADMINISTRATIONS,
WAR TRADE & SHIPPING BOARDS
OF THE
UNITED STATES.

403 MANZANA DE GOMEZ. HABANA CUBA. MRr ch 7, 1910.

IN REPLY REPER TO

Charles B. Hanford, Esquire, United States Naval Station, Key West, Florida.

My dear Mr. Hanford:

answered your letter of February 21, 1918, written by request for Nr. Thomas A. Raiser, which is due to the fact that I have been absent from the City for the fact that I have been absent from the City for a constant of the proposition of importing Alabama coal into Cube by means of the Cuban vessels.

There are a number of stenners and sailing vessels which would be available for this trade; a list of which I send you, herewith enclosed, on a separate sheet, and while the Buttonal Comunity of the state of the s

We are, at the present time, receiving coal in such quantities from the Northern ports as to supply the demand for the Island, end the condition which existed at the time you wrote your letter does not of Alabama coal with all the Railways in this City, who have informed me that they would not by choice use this coal, as it was not outside for their purpose. They stated that in former times the propagations

importing this coal had been made to them and it had always been declined. Under these conditions I do not think we would be able to do anything in this matter.

Again apologizing for my delay in answering your letter, believe me

Yours very sincerely,

American Cansul General. Representing American Food & Fuel Administrations and War Trade & Shipping Boards.

ним-в.

Enclosure:

List of available boats.

### [ATTACHMENT/ENCLOSURE]

### COPY

### U.S.S.Dorothea, 23 February, 1918.

## VESSELS AVAILABLE FOR COAL SERVICE BETWEEN UNITED STATES AND CUBA.

Vessel.	Company o	r Agent	Ŀ		Carr		Date Available
Chaparra	Empresa N	aviera	de	Cuba	1800	tons	March 20
Gibara		**	**		1400	tons	March 20
Lehigh	Compania Navegacio		đe		2400	tons	Upon clearing of ice in Well- and Canal.

### SAILING VESSELS.

W.F.M.Bentley	J.Costa (Agent)	500 Tons March 20
G.J.Boyce (Pro)	Gulf Belt Nav. Co. ably other schooners	500 " About 3/20 of this Company)
Ralph E. Haywood	J.Costa (Agent)	1000 tons March 10
Ada Tower		1000 " May 20
J.E. Debignon		900 " May 20
Tres Amigos (Scho	oner) J. Costa	500 " March 1

NOTE: Probably a number of Honduranian schooners carrying cigar box lumber to Tampa which are now returning empty. CABLE ASSESSED UNION CONTRACTOR OF A.B. G. CODES.



March 13,1918.

Mr.Chas.B. Hanford, for Mr.Edison, U.S. Naval Station, Key West, Fla.,

Dear Sir:-

Your favor of the 4th.inst.came duly to hand, but I was out of the city, which has caused this delay in acknowledging your letter.

I note that through Mr. Edison's influence that there may be a party sent down this way to exemine conditions as to coal.

If this man comes here, and is sent to me, I will be glad to assist him in getting information.

In the meantime, I can assure Mr.Edison now that there is plenty of coal here and no difficulty in getting large amounts.

We can get coal from Alabama, and we can also get it from Illinois, if necessary.

I would like to suggest what is, in my opinion, the best and most practicable way of getting this coal to Havana, or other Cuban ports, as far as the ocean transportation is concerned;

(I will say that I have been handling coal here on the waters more or less for the past forty years; and I have had a long experience with it, trying many different ways). There should be for the proper handling of this business four large, strong, sea-going barges constructed.

Each of these barges should have a carrying capacity of 2,000 tons.  $\,$ 

A powerful sea-going tug should be procured.

The plant would then consist of this tug and four barges.

Two of the barges should be at Havana.

Two of them at Mobile.

It should be arranged that the tug would leave Mobile with the two barges here, these barges loaded with coal (4,000 tons) and go directly to Havana.

The tug should then return at once to Mobile with the Havana barges loaded with sugar or any other kind of goods to come this way.

Of course, there should be proper facilities for unloading and loading with dispatch and economy.

This plant would put into Havana, say, 4,000 tons of coal per week, which would probably be all that would be required.

This would not only be the safest and most expeditious plan, but would be the cheapest way to handle this business.

I would say further for Mr.Edison's information (he may not have heard of 1t) that the reason Cuba has gotten into this fix about coal is that previous to the war the Fhiladelphia sugar refinery concern (a very large and strong company) ren from Fhiladelphia

#### . С. В. Н.

to Havana steamers especially built and constructed for this business. They carried coal to Havana and sugar back; and they did not permit anyone to interfere with their trade. They had, practically, the monopoly of it.

We tried years ago to do something in the way of sending coal to Havana, but we could not compete with the Philadelphia people.

The Louisville & mashville R.R.Co.also tried to ship coal into Havana, and lost more than \$200,000.00 before they gave it up.

Now, when this war broke out and the price of steamers went up sky-nigh, the Philadelphia people sold their steamers, and Cuba was without any way to secure coal.

yours truly,



MunsonSteamshipLine, 82-92-BeaverStreet,

B B K

3B *New Yorki,* March 14

Please refer to File >

Mr. Thomme A. Edson, U.S. Naval Station, Key West, Fla.

Dear Sir: -

Your telegram of February 24th reading as follows -

"Thy senest your Line carry deck loads of coal in bags from bottle to Havans price about est dollare black! Fracily sells at Havans Sventeen Dollars this gives you a good freight earning." roceived and delay in answering asse has been caused by seniting developments at Mobile. We wish to etate that we do have and have had for come time a rate in effect of \$1,93 per ten of 2240 pounde on coal in bags from Mobile to Havans, including the handling charges to the trucke. This rate is even lower than the bulk rate from Neoport New but the cost of bagging and the difficulties in bagging in time for making chipments without great expense seems to stand in the way. Furthermore the countity of coal is a thing that is very important.

We stand ready to carry any of this business that can be developed, to the limit of the capacity of our ships, whether on dock or under deck; first, of course, taking care of the food supplies which we are taking from Mobile.

3/14/18

We thank you for the interest you have shown in this

matter.

Very truly yours,

MANSON STEAMSHIP LINE

March 18, 1918.

Honorable M. Y. Morgan, American Consul General, 403 Manzana de Gomez, Havana, Cuba.

My dear Sir:

Your letter of the 7th inst. to iir. Thomas A. Edison is at hend and I thank you for the information contained atteredn. iir. Edison has been very much interested in the matter of getting a supply of coal to Cube and also in procuring return cargons of raw sugar and molesoms to the United States.

There are, or have been, many vessels currying lumber and other commodities to Cube which return to the inited States light, and a number have speeded for help in getting return cargoes to and describe the state of onersy. We have taken the liberty of accruacy them to you and if you can give thom any send the country in the return greature cargoes it will be greatly packeted. Mr. Edison has no personal or monetary interest in the matter and has acted only for the good of the counter.

Very truly yours,

For Mr. Edison.

March 18, 1918.

Pensacola Maritime Co., ilr. J. Greenblat, Mgr., Pensacola, Fla.

Gentlemen:

Referring to former correspondence on the subject of trumsporting out to the and projecting recurs cargoes of row sugar and molanese to the United States, I would state that it. Edison has succeeded in interesting the United States Government officials in the matter and further details should be taken up with them.

It is suggested that all matters in regard to the swallability of ships should be taken up with Honorable Edward B. Hurley, Cheirmen of the United States Shipping Board, Washington, D. O.

The matter of procering return cargoes of raw sugar and molasses it is suggested should be teken up with:

The United States Nor Trade Board, Knahington, D. C. the International Sugar Coumittee, Mr. George M. Rölph, Chairman, 111 Mail Street, Hew York City.

Mr. M. Y. Lorgan, representative for the United Series in Gabs for the Soud end Puel Administration of the Council Cou

the Ridson's sole purpose and interest in the matter has been to get able owners industrated and get that trade started. In this he has been successful to some extent and his efforts hero been made without selfish or monetary interest personally, but simply for the good of the cause. The matter is most interest to the difference of the Covernment and further information should come from them.

The quotation previously given you on the cost of coal at Mobile, viz: \$6.10 trimmed in vocacle, F. C. B. Mobile, Ala., was furnished by the Mobile Coal Co. of Mobile, who can furnish coal in large quantities.

Thanking you for your interest in the matter. I am

Very truly yours,

hobile

March 19, 1918.

Mr. A. C. Danner, Prosident,

Mobile Coal Co., Mobile, Ala.

Dear Sir:

Your letter of March 18th to me for Mr. Edison is at hand. I endles herewith a copy of a general letter sent out to all those who have responded or shown an interest in the control proposition, which will explain the present status of siffairs and also the fact that you are prepared to furnish coal at the rates we have quoted to them.

By dimetion of Mr. Edison I am sending a letter to-day to IT. W. M. Clemens, General Secretary of the Mobile Chember of Commerce, telling him that there has been almost universal complaint about the quality of Alabama coal and suggesting that the Chamber of Commerce should take steps to correct the means and which if allowed to stand would do much to injure Mobile as a coal-purchasing merket. I have no doubt that as your first letter to Mr. Edison was written at the suggestion of Acting Mayor of Mobile Mr. George S. Crawford and as he must letter to the You desire to read it.

Again thanking you for your assistance and interest, I am Very truly yours, O-la

March 19, 1918.

Mr. W. M. Clemens, Gen'l Secretary, Chamber of Commerce, Mobile, Ala.

Dear Sir:

In conclusion I would say that Mr. Edison has interested the United States Shipping Board in the proposition and they will probably take up the whole matter in regard to transporting coal to Cube, also the matter of return cargoes of sugar and molasses, and further information end details should come from them. Mr. Edison's interest in the matter has been soilely for the good of the cause and he has had no selfish or monetary interest whatever.

Mr. W. M. Clemens -- March 19, 1918.

It is suggested that all metters in regard to the availshilty of ships should be taken up with the United States Shipping Board, Honorable Edward M. Hurley, Chairman, Washington, D. C.

The matter of procuring return cargoes of raw sugar and molasses with:

The United States War Trade Board, Washington, D. C. The International Sugar Committee, Mr. George M. Rolph, Chairsan, 111 Wall Street, New York City; and Mr. M. Y. Morgen, United States Consul General and representative in Cubs for the U. S. Food and Fuel Administration, The War Trade and Shipping Soards, at 405 Manzans de Gomez, Havana, Cubs.

Thanking you for your interest and assistance in the matter, I am

Very truly yours.

For Mr. Edison.

UNITED STATES SHIPPING BOARD
WASHINGTON

March 23rd, 1918.

Mr. Thomas A. Edison, Key West, Florida.

Dear Mr. Edison:

Your telegram of recent date from Key West was duly received and highly appreciated by me. I immediately took the matter in hand and am still working on it.

as you are sware, practically all of the wooden seiling ships that go to Ouba carry lambor, and they see unfit to lift sugar as the insummer rates are prohibitive. Whorever a saling vessel is fit to lift sugar, she has no difficulty. I can informed, in securing a carge.

Practically the supply of coal for Cuba comes from the New River, Pocahantas and Berwind-White mines. I am now having an investigation made into the Warrior River fleld, with a view to utilizing that supply.

Renewing my appreciation of your interest and help in the affairs of the Shipping Board,

Very sincerely yours,

Educard Milly

Naval Consulting Board and Related Wartime Research Papers Subjects -- Vickers Machine Gun and Ammunition Feeder (1918)

This folder contains correspondence and other documents relating to Edison's desire to develop a more efficient mechanism for feeding ammunition to machine guns by using hoppers or non-refliable belts. The correspondents include Edward Craig and H. W. Morgan, inventors of nail-handling machines, as well as Brig. Gen. W. S. Peliroe, Lt. Col. Earl McFarlane, and other officers of the Engineering Division of the Ordnance Dept. Some of the selected items pertain to Edison's efforts to locate inventors who could work on this problem and to obtain guns and cartridges for experimental purposes. Also included are shipping documents relating to Edison's receipt of a machine gun and ammunition for use at Key West, along with other items regarding the testing of Morgan's hopper-type ammunition feeder.

Approximately 50 percent of the documents have been selected, including all items detailing Edison's personal involvement. The documents not selected include routine correspondence dealing with requests and shipments; correspondence between Morgan and the Engineering Division; oversize blueprints sent to Edison by inventors; and a report on a test of Morgan's device conducted at the Springfield Armory.

LDR #4704 Parm No. 146.

TRANSFER OF ORDNANCE PROPERTY.

From G.H. Stawart, Lt. Col. Ord. Dept. H.A. at Springfield Armory. Massa.

to The Ohief of Ordnance. at Washington, D. C.

per Quartermaster at Springfield, Mass. BY EXPRESS

in conformity with \* Telos SP-799 Supply Div. dated 1/24/18 (S.A.400.356/1260)

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.	5° This property must be accounted for on returns rendered to THE GRIEF OF ORDN U. S. ARMX. (See Para 683, 700, 701, and 1649, A. R. of 1913.)	VANCE,
Nes. 1 to, it	INVOICED the 26th. day of	Ord. Dept. N. A. Comdg
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COMBINATION BLANK, INVOICE OR RECEIPT.

## TRANSFER OF OR NAME PROPERTY.

From L. E. Sutton, Insp. of Ord., ..., at ...... Worcester, Mass. at o/o Commandant Navy Yard, Key West, Florida. 4 Authority for trapper of the property must b in conformity with ..... Quantity. (See figures.) Cartridge Belts for Machine 1 39 Gun. 1000-round. The above is shipment of Lot No. 4 ... War Order C.M.G.21 dated Sept. 25, 1917. from Mills Woven: Cartridge Belt Company, Wordester Mass. W.Q-98. L.E.Sutton, Insp. of Ord. Thomas A. Edison, c/o Commandant Navy Yard, RECEIVED the .16 Ten west Key West, Florida. STORES received for transportation this Beceiving Officer. Receiving Officer's Voucher

1 3 . 7 3 9 COMBINATION BLANK, INVOICE OF RECEIPT. Ordnance TRANSFER OF ... PROPERTY. (i). M., Ord., Engr., or Signal.) Frein XX Col. KENNETH MORTON, Ord. Dept., U.S. A., San Antonio Arsenal, Tex.
Thomas A Edison, C/O Commandant Mary Yard, Key West, Florida. Telos "Precedence" BN-928. in conformaty with CONTROLLED STORMS:
Part 1, Class 8, Section 1,
Rifle ammunition:
Ball cartridges, cal. 30, 12,000 model of 1906. ROTE: For target bracking in the UNITED STATES ON Y. MINGIA STORES: Pa t 1, Class 10, Section (1, Chemis: Chesta packing metallic.
for cal, 30 ball cartridges. No. 1 to incl. In word m BAN ANTONIO ARBENAL, Tex NO SIGNATURE REQUIRED HERE

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- A

FIELD ARTILLERY VEHICLES SEACOAST OUR CARNAGES BAILWAY WOUNTS HACHINE GUNR

WAR DEPARTMENT OFFICE OF THE CHIEF OF ORDNANCE

#### CARRIAGE DIVISION 1703 NEW YORK AVE. NW.

Answer should be addressed to "Machine Gun Section, Carriage Division, 1703 New York Ave. NW., Washington, D. C."

In replying refer to NoE M \$ 400,111

February 11, 1918.

Mr. Thomas A. Edison
504 Navy Annex Bldg.,
Washington, D. 2C.

Sir;

In accordance with your letter dated August 20, 1917, (08855.417) in which you state that you are desirous of conducting cartain August August 20, 1918, (1885), and the state of the state

munition to making quou is to fill long belts with ammunition taken from clips containing five cartridges each by means of a special loading machine, which is done in the vicinity of the place where the ammunition is expended. The cost of the clips and packing, maintenance on belts and boxes, maintenance on loading machines, and maintenance on shipping cases amounts to about 0.7 cents per cartridge used, or about \$1.75 per belt of 250.

can be designed which will be made of a paper or fibruse compound, loaded in the factory, hermetically scaled in the factory, hermetically scaled in the case, and forwarded directly to the gum. As the belts are required, the gumen recent that the control of the

The great quantities of ammunition belts and boxes which are constantly belng purchased, the confusion necessitated by refilling belts in the forward ammunition dumps, the uselessness of machine guns

Mr Thomas A. Edison

February 11, 1918.

without special boxes and the inconvenience of carrying empty equipment, makes this a question of vital importance at the present time. four core vital will be very much appreciated and this drice will deal in its power to assist you in your investigation.

BARL HC FARLAND

Lt. Colonel, Ordnance Dept. N. A.

By: HERBERT O'LEARY

Major, Ordnance Dept. N. A.

DN Washington DC Feb 20 1918.

Navsta Key West Flo

12118 For T A Edison Quote there are three patentees of box mailing machine \( \frac{1}{2D} \) B. 'Green.—Street eleven zero nine North Capital Avenue Indianapolis period. E Craig, St Josephs Mich. Signed Commissioner of patents unquote 12020

Opnev

Copy to Commandant Naval Station.'

Note: Underlined words are in mutilated code;

U. S. Naval Station, Key West, Fla., February 21, 1918.

Commissioner of Patents, Washington, D. C.

inventor of machine for driving mails in making wooden boxes, not mailing machine as your telegram states period a mail to utilize his experience in corrying out the feeding of bullets to amohine game for our Government

Thomas A. Edison.

Plain English

Com Patento.

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Jel

#### LEASED WIRE TELEGRAM RADICODE TRANSLATION

DH-Washington, D.C. Feb 21, 1918.

Navy Radio

Key West, Florida.

For Thomas A. Alison quote: Information furnished previous dispatch correct only word quote mailing unquote should have been quote nailing unquote. 15081.

Commissioner of Patents

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## WESTERN UNION TELEGRAM

Form 1204

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# WESTERN UNION DOWN THE PROPERTY OF SERVICE SERVICES TELECRAM

RECEIVED AT 1480 KH 155 GOVT SHEET 2

JASON H GEFENSTREET INMARROUS PAPASEAPH AVONG SHOT MAILING MACHINERY INVENTOR'S AFE EGASTUS COORWARD SUCCEVILLE WASS COMPA WILLIAM C STEWART LYNN MASS CON FA JOSEPH H POPE THUT LITTED THIS COMMA PEFLY F CLASS BEOCKLEHE WASS CONVAIR FINCEFELFY BEVEFLY WASS PARKSTAPH ALL EXPLIES PATERTS

HAVE EXPISED WIND PATERITIES DEAD OF WHELE VOCALE AMERICAN BELIED SOME OF THE \*POPARIC INVENTORS LIVE HERE AND IN VICINITY

JARVIS BUTLET

DEPARTMENT OF THE NAVY. GENERAL BOARD, WASHINGTON, Ammuniteon Belts for Machine OLS Guns -

Pebruary 25, 1918.

My'dear Mr. Edison,-

Suplementing my telegrem of Stirrday regarding the inventor of the multiple neithing mentine sor mixing become being familiar with Estent Office proceedure only to the extent of Inoving that it is: long process to got any security information, I called on my good to got any security and office of the control of the security of the s

With liv. O'Hoill's assistance I looked over the sketches and sont you the name of inventors who had perfected practicable machines which suggested a possible relationship to the purpose you have in mind. The inventions of Mimor C. Horthrup of Los Ingeles, California, seemed to be the nost simple and effective. Practically 211 of his inventions have been immediately assigned to the Automatic Rechine Company of San Prancisco.

In the process of numing down the subject several patons rollting to the nelling of some suggested a close recomblance, or at locate syllacidity, to the machine gun principle, and I therefore gay you the mass a last of several cuch immentors. The inventions of Privatus Modern (Sameville, Like)—Topicated to as Describe Modern (Sameville, Like)—Topicated to as the intendisting the several cuch immediate the several cuch in horse-show order in healt, while other show a nivelious control of the sale in the several cuch in th

Among all of the inventions were, of course, a great many of the ejecution type, meet of which tre probably not in use. I took as an index to the precise bility of the meethnes, and ability of their inventors, their assignment to wordering manufacturers.

I have talked with the Mackington recommentative of the United Shee Elchinery Cong.tm, 12. Frink is cooking down the United Shee Elchinery Cong.tm, 12. Frink is to the Congress to know your well personally, and he has given me a lot of Interesting intermetion concerning the machinery thoughout the congression of the Inquiry communicated to his home office in Packing at the Congression of the Inquiry communicated to his home office in Packing at the Congression of t

Yours sincerely,

Er. Thomas A. Edison, o/o Commandent Faval Station, Key West, Florida.

February 25, 1918.

Mr. Edward Crarg

St. Joseph, Mich.

Dear Sir:

I understand you are one of the inventors of the modern nalling machine for automatic driving of mails in procking boxes. If this is correct i want to state that the Government is designed of proving the fact that the following the fact that fact the fact that fact that the fact that fact that the fact that fact the fact that fact that fact the fact that fact that fact the fact that fact that fact that fact that fact that fact that fact the fact that fact that fact that fact that fact that fact the fact that fact that

If you are willing to do a little for the Government let me know. If after you have seen the gan you can make drawings, I will have the feed made to test it it looks feasible.

Yours very truly,

February 25, 1918.

Mr. H. W. Morgan,

Rochester, N. Y.

Dear Sir:

I understand you are one of the inventors of the modern nailing machine for automatic driving of nails in packing machine for automatic driving of nails in packing machine for this is correct I want to state that the Government is desirous of improving the machine gun in connection with the belt which sowes to hold the bulless maily feed them to the gun. These to hold the bulless maily and oundersone. They have active to took on the problem, but I am so busy make the state on any more Government work and inventor of a nailing machine. By idea is to do away with the belt and feed the bullets from a hopper. You can probably see one of these guns in your vicinity.

If you are willing to do a little for the Government let me know. If after you have seen the gua you can make drawings, I will have the feed made to test it if it looks feasible.

Yours very truly,



### SARANAC MACHINE COMPANY

ELECTRICAL SEATON IN W.U. CODE

& SPECIAL STAPUNG MACHINERY.

LONG DISTANC

BENTON HARBOR, MICHIGAN

March 2,1918

Thos. A. Edison, U.S. Haval Sta., Key Wost, Fla.

Dear Sir:

Your esteemed favor of the 25th received and I can assure you that I will be more than pleased to assist the Government in designing a satisfactory hopper fooder for magnine guns.

I have dealmod and constructed quite a number of hoppor fed machinos for different work but have never had any experience in gnu work. I am quite sure however that I can design and construct such a device if I could get a gun to work upon and to get all of the available information as to just what has been done in the past such as abothes, blue that in the sum of the forth why they have not been said to the forth why they have not been satisfactory together with superstions that actual practise hus proven would be desirable.

Should it be impossible to send this gun, would suggest sending drawings or putent papers covering the same, also advise nearest point where one of these guns may be seen.

Yours vory truly,

Edw Oracj



MORGAN MACHINE CO.

BOX MAKING MACHINERY
NAILING MACHINES

March 4, 1918.

Mr. Thos. A. Edison, U. 3. Naval Station, Key West, Florida.

Dear Sir:-

On account of my absence from the City for the last ten days, your letter of February 25th has not been answered before.

I will be very glad to do anything I can for the Government, and will look up the matter of Machine Guns and see if I can study out anything that would help. Will be pleased to report to you any suggestions that I have to offer after studying over the matter.

Very truly yours.

HWM-EG

Himorgan

Inventors of nailing machines Elmer, C. Northruppo ? no aurus. N. W. Morgan answered Roberta N. J. favorably C. M. Green Mighland Park Letter returned. 2016 | Une acted for Edward Crain & awwerd St- Joleph Mich. & favorably Julius J. Miller at - ho answer Jam K greenstut 1109 North Capital and

J. H. GREENSTREET 1109 CAPITOL AVENUE NORTH INDIANAPOLIS, IND.

Indianapolis, Ind., March 8, 1918.

Mr. Thomas A. Edison, U. S. Naval Station, Key West, Fla.

Your favor of the 25th, ult. was duly received, and I proceeded at once to " do my bit" by visiting Fort Benjamin Harrison, and looking over a Colt Hachine Cun of new design with boilt feed.

The Belt Feed I notioned was lacking in positive movement, due, as I bolieve, to its tendency to wrimide and buckle. As a means to evercome this defect, I sugner a light, steel-linked chain formed into a nervew bolt, say 2/2 wobes each, to be carried by the positive movement of Sprocket shows, the power boling cupiled by the operation of firing the gum. The links of the chain should form pockets which would carry the cartridges forward to the firing solut.

Inservetfully subsit to you for consideration, two sketches of Hopper Pends, showing the samer of feeding the cartridges in the case, I prefer the one representing the feed by two hoppers. In that sketch, the right and hopper will always be supplemented by the hopper on the laft, which is ready to supplemented by the hopper on the laft, which is ready to supplemented for any weart procket which may come under it, thus assuring a confirment supply of assumition to the case.

the replace, i believe, can be kept falled by one man, and a continuous fire be kept up if desired. The chains and such anism or durable. The chain much, of course, be as light as postable to give the necessary strangth. This method of feading billimates the labor and time required to remove the comply bolt, and to fill the bolt and relaced to.

I am unrible to show perspective, but I trust my rough existence with the notations will convey my idea.

Very respectfully yours, of free ustreet

April 4, 1918.

PERSONAL

Honorable Benedict Crowell, Assistant Secretary of War, Washington, D. C.

Attention of Colonel Earl McFarland, Major Herbert O'Leary, Machine Gun Section, Carriage Division, 1703 New York Ave. M.W., Washington, D. C.

Dear Sir:

In represent to a lotter received some time rest, a copy of which is howevith suchased, I took up the matter wish several successful inventors and I have interested a couple of them in devising a feed to meahing game to do away with the sumbercome bolt, which also at times jame. Those inventors are restricted men, both having inventor and restricted men, both having inventor and the restrict in this with the feeding men mention of the restrict of the restric

Very truly yours,

Address reply to "Machine Gun and Small Arms Section, Engineering Bureau, Office of the Chief of Ordenice, U. S. A.,
451 Pennsylvania Avenue, Washington, D. C."

Ammunikeon Balls

WAR DEPARTMENT

OFFICE OF THE CHIEF OF ORDRANCE
ENGINEERING BUREAU
451 PENNSYLVANIA AVENUE

Alfan

WASHINGTON

In replying refer to No. ES 400.111

April 16, 1918.

Mr. Thomas A. Edison, #504 Mavy Annex Euilding, Washington, D. C.

Sir:-

- 1. Acknowledgmont is made with thanks of receipt of your letter of April 4, 1918, to the Assistant Secretary of War, written in reply to letter (ES 400.11/387) from the Engineering Bureau dated February 11, 1918, on the subject of expendable botts for machine pune.
- I am very much pleased to loarn that you have enlisted the interest of two compotent inventors in this matter, which action on your part is greatly appreciated.
- s. In order to throughly familiarise these men with the requirements with zero to be not, it is feet that if possible they should arrange to visit the Springfield Armory at Springfield, lises, at which place there is an Experimental Department will supply the properties and the state of the
- 4. If this plan meets with the approval of the two inventors concerned, I shall be glad to be so informed so that arrangements can be consummated for an early visit by them to the Swringfield Armory.
- I shall hope to hear from you further in this matter at your convenience, and shall await your reply with much interest.

#### Respectfully,

W. S. FEIRCE, Brig-General, Ordnanco N. A., Acting Grief of Ordnanco.

H. RICE,

Brig.-general, Ordnance N. A.

200



## SARANAC MACHINE COMPANY

#### BENTON HARBOR, MICHIGAN

April 26,1918

TERMS AND CONCESTIONS ON REVERSE OF THIS SHEET

Mr. Thomas A. Edison, U.S. Naval Station, Key West, Fla.

Dear Sir:

I am enclosing with this a blue print of another type of machine gan hopper. I take it for granted that the other prints I submitted in Fobruary are not quite satisfactory, however i am positive if can get a true line on the right requirements of the control of standard mechine gun that I can design a satisfactory hopper feeder.

One of the best features of this now device is being able to turn the shell carrier by hand thereby filling up the entire ring with shells before starting the gun. This would give at least 50 shots and would not fail to operate. The shells are placed in the center of the housing thru the rear.

The shell feeding pawl engages the end of the shells forcing it over into position carrying the shell ring with it, the carrier ring rides upon the shells as they project slightly below the ineide diameter.

Should the above appear impractical, I would be pleased to have it criticised, also any suggestions you may have to offer.

Ae stated in my former letter if I could get a gun for a chort time, or a full size drawing of one, I feel sure I could develop a eatiefactory feeder.

Yours very truly,

ery trous, Odes - Orazig

May 1.1918.

Brig-Gonoral W. S. Poirco, Acting Chiof of Ordnanco, Engineering Bureau, 451 Ponnsylvenia Avenue, Washington, D. C.

Doar Sir:-

1. Your lotter of April 16th, 1918, signed by Brig-Gonerol J. H. Ried, file Es.440-111 419, on the subject of oxpondable bolts for machine gume, was received by me at Loy test, Plorida, on the day that I loft for the Borth. This will explain the delay in writing a teply.

2. The two inventors these convices I have enlisted in this matter are very busy non, living in different parts of the country, and I thin! it would be very doubtful if they could cause the time to visit the Eprindfield Among at Springfield, Loss.

3. Shoic two man are very democtant and I am sure, would be able to work intelligently if you could spare each one of them a machine pur with the armitted bolt. Such gum arity boundly, be obsolve or discarded once, so long as they were operative and capable of having the proposed improvement applied to them.

4. If it is featible for you to supely those two machine game with all parts, please advise we and I will communicate with the two inventors and find out the addresses to which they would like to have them forwarded.

Respectfully yours.

A/5093.

May 3,1918.

Hr. Edw. Craig, c/o Smanac Hachino Company, Bonton Herbor, Hich.

Dear Sir:-

April 26th, onclosing a blue print of another type of muchine gum hopper, for which in . Edison wishes me to express his thanks.

He desires no to cay to you that he is quite unity you will be able to tark to your our catification man he will be able to tark to your our catification will be remarked to other the a unpuly of remarked to other he has been a constituent and can quite appreciate how much better twould be from your intempoint to have, a median you of that you can take it off some quite place and a taily and caporiment at your one convenience.

He wishes no to say to you that he is making an effort to get you one of these machine guns, even if it is a cocond-hand one, and he has every expectation of boing able to obtain it.

have shipment made to you at once, and progume it will be all right to send it to you at Bonton Herbor, High.

Yours your truly.

Assistant to Mr. Edison.

4/5095.

Eny 4,1918.

Hr. H. W. Morgan, o/o Horgan Hachino Co., Rochostor, H.Y.

Doar Sir :-

Λ.

Ir. Edicon has come out of twa again, for a for dags only this time, and has acted no to write and any to you that at no it constitute of an appealmentor bleach has been consulting about the difficulties of deviating a now adjunct to an already exhibiting me which

Ho is quite cortain that you will be able to make much better proprise if you have a waching put to excell out with. He is exching an offert to pat you one of those pure, to rether with examination belts, and has every reasonable expectation of being a le to obtain this.

If he is successful, we will advise you at once and this it to the address to which this letter is sent, unless otherwise requested.

Yours vory truly,

Assistant to Pr. Edison.

B

Address reply to "Machine Gun and Small Arms Section, Engineering Bureau, Office of the Chief of Ordnurce, U. S. 451 Pennsylvania Avenue, Weshington, D. C."

WAR DEPARTMENT OFFICE OF THE CHIEF OF ORDNANCE

ENGINEERING BUREAU

Filtrt

In replying refer to No. ES 400.111

May 6, 1918.

Mr. Thomas A. Mison, Orange, M.J.

Sir:

Your lotter of the let (25 400.111/588), regarding the question of developing excumelate, belts for machine rune, is acknowledged, and you are informed that is will be possible to sue diy the two inventors referred to therein, with Colt Emchine Gunn and thair necessary queinsont.

It is suggested that you consumic to with these two invertors in view of determining to which place they wish the guns sent, and upon receive of the information this Office will cause the "upply Division to express the guns."

Pespectfully,

W. S. PEIRCE, Brig. Gen., C.D.N.A. Acting C. of C.

By: J. H. RJCE,

Brig. Congral, Ord. Dept. H.A.

51 48)



MORGAN MACHINE CO.

BOX MAKING MACHINERY

NAILING MACHINES

UNITED STYLE AND EDIT VER HOAD

ROCHESTER, N. Y., U.S. A.

Mr. Thomas A. Edison, Orange, New Jersey. Mr. Wm. Helleadowaofi, Asst. to Mr. Edison.

Dear Sir:-

I have been out of town for a day or two and just received your favor of the fourth.

I have been making some sketches and trying to figure out what might be a solution of the requirements on the machine gun, but it would be a very great help, as kr. Edison suggests, if I had a muchine gun here to experiment with. I have examined one but had to go to Hew York to do 80.

I can assure you that I will use every effort to do anything I can to help this matter along. Yery truly yours,

HWM-EG

Humorpon



MORGAN MACHINE CO.

BOX MAKING MACHINERY

NAILING MACHINES

ROCHESTER, N. Y., U.S. A.

Mr. Thomas A. Edison, Orange, New Jersey.

Dear Sir:-

I am in receipt of your favor of the 10th.

I shall be very glad to receive the machine gun, with belts, ammunition, etc. will do everything
I can to try and help in the matter of which you speak.
I have been at work on this but as yet have not figured out what might seem to be a suitable device. However, will keep ut it and use every effort to bring something about.

You may ship the machine gun to H. W. Morgan, c/o Morgan Machine Company, University Avenue and Culver Road, Rochester, New York.

Very truly yours,

HWM-EG

Hunngan

May 14,191d.

Brig. Gon. E. S. Peirce, Office of the Chief of Ordnance, Engineering Surceu, 451 Penneylvania Avenno, bachington, D. C.

Dear Sir:-

E. S. 40-J11- 155, convenient the thin file convenient convenient the quantum of developing expendentle balks for the months of an an planead to learn that it fill be possible to amply to the two investors Coltikehine June and their meconary opulyment.

I have communitened with those two largetons of but thus for have received a rectly from only one of them. It like the first like two like the coll the the larget he would like to have the Coll theathed one and seccentry equipment, together with a reasonable our ply of a manition, forwarded to him at Janton Earber, likely, e/o surnece Lenkine Company.

At soon as I hear from the other inventor I will advice you, but in the meanwhile, to have time, the above chipment can be need to ir. Crair.

Lespectfully yours,

4/6148.

Address reply to "Machino Gun and Small Arms Section, Engineering Bureau, Office of the Chief of Ordner 451 Ponnsylvania Avenue, Washington, D. C."

WAR DEPARTMENT OFFICE OF THE CHIEF OF ORDNANCE

## ENGINEERING BUREAU

451 PENNSYLVANIA AVENUE

In replying refer to No. BS 400: 111

Comment of the state of the sta

Mr. Thomas A. Edison, Orange, N. J.

dated May 14th (E S 400.111/562) regarding the furnish will ing of a Colt Machine Cun to Mr. Edward Craig, Benton Harbor, Mich., c) Sarana Machine Company, which gun, it is undorsteed, will be used by him in the development of expendable machine gun belts.

asked from the Supply Division requesting that one Ool Machine Sun, 4 assumition boxes, 4 assumition betts one tripod, a hand-book, 10,000 rounds of the summitted assumition, and such other accessors in the contract to the successful operation of the gun, be expressed to the above mentioned inventor.

By order of the acting Chief of Ordnance. Respectfully,

EARL MC FARLAND Lt. Colonel, Ordnance N. A.

F. R. BACON Major, Ordnance R. C. Address reply to "Machine Gun and Small Arms Section, Engineering Bureau, Office of the Chief of Ordanson, 1/6 S. A.,
451 Pennsylvania Avenus, Washington, D. C."

WAR DEPARTMENT OFFICE OF THE CHIEF OF ORDINANCE

ENGINEERING BUREAU 451 PENNSYLVANIA AVENUE WASHINGTON

400,111 in replying refer to No. ES 586

May 20, 1918.

Mr. Thomas A. Edison, Orange, N. J.

Sir:

Ordname to acknowledge receipt of your letter dated and the second of th

Respectfully,

EARL MC FARLAND Lt. Colonel, Ordnance N. A.

By: PRODEN

F. R. BACON Major, Ordnance R. C.



# SARANAC MACHINE COMPANY

-CTECHNICHT TEALOR HANDON

WIRE STITCHING; GOMBINATION PRINTI-SUTTING ECREASING PRESSES AUTOMA FEED GUTTING & GREASING PRESSES SPECULA MITOMATIC MACHINERY FOR PAP SUFES, CARTONS & FIBER SNIPPING GAS LONG DISTANCE

# BENTON HARBOR, MICHIGAN May 23, 1918

Trans on contrions as priviles of the tool

Thomas A. Edison, Orange, N.Y.

Dear Sir:

Your letter of the 14th was received, also of the 21st and I certainly appreciate your efforts in obtaining the gun for me and I hope to be able to perfect a satisfactory hopper.

I have just received a letter from the Bagineering Bureau stating that they will express a colt machine gun and 10,000 rounds of ammunition and I will be pleased to notify you when this is received by me and I will keep you informed of the progress I am making.

Again assuring you of my appreciation of your cooperation, I remain

Yours very truly,

EC LM

Odw Oraig





MORGAN MACHINE CO. BOX MAKING MACHINERY NAILING MACHINES

ROCHESTER, N. Y., U. S. A.

June 8, 1918.

Dr. Thomas A. Idison, you should have deverall orange, her Jersey. 15 Dear dir: -

The gun, with equipment, has arrived, but no

I am writing to the denot Ordnunge Officer Cott cartridges. at springfield, cassuphusetts, asking him to squa. possible, five hundred of the cartriges. know that I will use them, but they might be used to advantage in coming to a decision as regards to any being able to help you in any way. I have not been able to arrange any device that would seem better or less expensive then that sent with the gun, but will continue to give it a very careful study. Very truly yours,

HESS-NG

Humorgan

June 13,1918.

Mr. H. M. Morran, University Avenue and Culver Load, Rochestor, H.Y.

Dear Sir:-

Your favor of the 0th instant to in. Edison has been received and he wishes me to say that you cupht to have several thousand cartridges. He fools sure that you can get rid of the bolt and feed cartridges from a hopper.

Yours very truly,

Assistant to ir. Edison.

A/5289.



MORGAN MACHINE CO.

BOX MAKING MACHINERY

NAILING MACHINES

ROCHESTER, N. Y., U.S. A. August 20-1918.

Mr. Thos. A. Edison,

Orance, H. J.

Subject: Feeding Cartridges to Eachine Gun.

Dear Sir:

Meferring to your coveral communications on this

subject, after exerminating on several different lines,

I have succeeded in making a machanical feeding device
to feed cartridees into the gun from the original macking
box, as follows.

This feeding device is clased in conition on the tripod, in the grooves provided for installing the belt feed box. It is not attached to the gun in any other way, so it does not interfere with the same gun feeding belt cartridges, if desired.

The power for operating the feeding device is obtained from the one quarter inch pin that bases through the arm, near the end of the barrel of the gun, which is actuated by the explosion and returns by means of a spring. When organ machine co. Rochester N. Y. Continuation sheet No. Two. Mr. Thos. A. Edison.
August 20-1918

this arm returns it trips a little pawl, which operates the feeding device.

The box holding the cartridges is an ordinary Pine box, - made special, however, for the purpose. It is intended that this box be filled at the cartridge factory and it is then ready for the gun.

It is placed on the feeding device and the gun fired in the ordinary manner. When the box is empty it is discarded and another one put in place. It takes about eight seconds to discard an empty box and clace a filled one in position.

The box which I have made contains one hundred cartridges; it can be made larger or smaller, if desired.

This device feeds the cartridges successfully to the gun in whatever position of adjustment the gun may be.

I have tested the gun by firing the cartridges from the box by this device and insofar as I can see it does the work. Correctly as I am not familiar, however, with machine gun practice, I do not know whether this device is suitable or not.

Please advise me as to the next step.

. I am sending a copy of this letter to Mr. Earl McFarland, Lieut. Col. H. A. War Department, Office of Chief of Ordnance, Engineering Bureau, 451 Pennsylvania Ave., Washington, D. C., at whose orders, on your recommendations, the Colt Eachine Gun was sent to me for this experiment.

I will be pleased to hear from you further.

Very truly yours,

HVILL/ALIC

Humorgon

Sept. 3,1918.

Liout. Col. Earl McFarland, N.A., Was DEPLIMENT. Office of Chiof of Ordnucco; 451 Pomnsylvania avonuc,

451 Ponnsylvania Avonuo, Machington, D. C.

Doar Sir :-

I have just returned from a short vacation and find a letter from 17. E. W. Dorman of incolositer, b.f., in recent to a device which he has developed on suggestion for f.eding courtified to machine june. In his letter, ir. Morran states he has sent you a copy of the letter written to me.

I am now writing to so: what the next step shall be. Do you don't to have it increase forward to you at inchington or abordon, the muching you and outproof to rill you first need up a representative to soo the operation of it. Norman's device at inchestor, 12.2.

Yours very truly,

4/5602.

To insure prompt attention, in replying refer to

WAR DEPARTMEN OFFICE OF THE CHIEF OF ORDNANCE ENGINEERING DIVISION

400,111 No. al-Attention of 935 Cant. Stanley.

September 13, 1918.

Hr. Thomas A. Edison,

Orange, H.J.

Sir:-

Referring to your letter addressed to it. Col. Barl lowerland dated beytender Brd, 33 400,111/925, in which you state that in. H. V. Hougen of Rochester, I.Y. has developed a device for feeding cartridges into machine guns, I am instructed by the Chief of Ordnance to inform you that this Office has been in receipt of a copy of a letter from Mr. Morgan out-lining his invention.

In order that the machine gun engineers in Vaulington may see this device and personally impost it, this Office has requested Er. Morgan to send in the attachment. will be thoroughly examined here and then forwarded to Springwill be thoroughly exhained here and then betweened to be the field Armory for testing, at which place it is hoped to determine its applicability for use with different machine guns and its practicability for issue in the field.

This Office desires to express to you its appreciation for the courtesy which you have extended in this matter.

Respectfully,

J. S. HATCHER, Ordnance Dept., U.S.A.

G. U. BUHDETT, Captain, Ordname Dept., U.S.A.,



MORGAN MACHINE CO.

BOX MAKING MACHINERY

NAILING MACHINES

ROCHESTER, N. Y., U.S.A.
September 13, 1915.

Mr. Thomas A. Báison, Orange, New Jersey. My deer Mr. Edison:

I am in receipt of your lever of the third. All be very glad to herr from you or From Machineton in repart to the feeding device for certriages in machine gan which I have been experimenting with.

I sent a copy of the letter which I wrote you on August Sith to im. Barl koverland, Liout. Col. M. A. Jar Department, Office of Chief of Ordanene, Unsincering Suresu. 451 Pennsylvenia Are., Weshintton, D.C., as he stated there was an argent need for such a device when he wrote me that he had sent me the gan to work on. We have not heard from in, kiegaritand and do not know that he is the party to hear from, but incament as he stated the argent need of the Government for such a device, we sent him a copy.

I have made several tests and, so far as I can see, the feeding device works correctly. The boxes that I had made to hold the cartridges contain one hundred each but, as stated

NORMAN MACHINE CO. ROCHESTER. N. Y. CONTINUATION SHEET NO. Two. September 13, 1918.

in my previous letter, the device could be made to handle more or less. Not having a large supply of cartridges, I would put twenty, thirty or forty in a box, fire them out and change the box and the feeding device seems to handle them correctly. I believe it is a considerable -advantage from fact that the box of cartridges packed at the certridge factory is the one put into the device, without any change or manipulation.

I wrote the Springfield Armory a day or two ago and saked if they would send us five or eix hundred certridges, giving the number of the order on which the previous five hundred were sent. I wanted these to have on hand in case information came from you that officials would come here to see the Sevice tested.

In onswer to this letter I received the following telegram:

"Reference your letter to Springfield irmory, dated September seventh, requesting shipment of carridges, this trensaction will have to be either a sale to your Company or an issue to Inspector of Ordnance at your plant. Thre this office whether you wish it to be a sale or m issue."

This telegrem was sent from Washington and signed "Supply Division, 34188, Army Ordnance".

I do not care whether they send the cartriages to me as a sale or an issue, but as there is no Inspector of Ordnance at our place I am a little at a loss to know just what to do. I enclose a copy of a letter which I have sent in reply to their telegram.

My anxiety is that if I can do snything to help win the

MORGAN MACHINE, CO., ROCHESTER, N. Y. CONTINUATION SHEET NO. Three. September 13, 1918.

T.A.B.

war and anything to assist the Government, I am enxicus to do it as soon as possible.

Very truly yours,

HIM-EG

Humorpan

# [ATTACHMENT/ENCLOSURE]

Copy for Thos. A. Edison.

Soptombor 13, 1918.

Supply Division 34188, Army Ordnance, Seshington, p.C.

# Gontlemen:

- We are in receipt of your tologram resding as follows:
  "Reference your letter to Springfield Armory dated
  Soptember seventh, requesting shipment of cartridges,
  this transaction will have to be other a sale to
  your Company or an issue to Inspector of Ordance
  at your plant. Are this office whether you wish
  it to be a sale or an issue."
- I hardly know how to enswer this telegram as there is no Inspector of Ordnence at our plant.
- I would explain that at the request of Mr. Themse A. Edison I have undertaken to do some experimental work relative to machine guns. On May 10th Mr. Edison wrote that a machine gun and equipment for this parpose was to be shipped to me. On May 20th I received a letter from Mr. Sarl McSarlend, Lt. Colonel, Ordnance, H.A., Office of the Chief of Ordnance, Engineering Burean, 461 Fennsylvenia Avenue, Washington, D.C., in which he states:

# [ATTACHMENT/ENCLOSURE]

Two. September 13, 1918.

Supply Division 34188. Army Ordnence.

" At the request of Mr. Thomas A. Edison, Orange, to Inform you that the Supply Division of the Cardanace to Inform you that the Supply Division of the Oranace Colt Manage and Thomas and Table 100 to Thomas Colt Manage and Table 100 to Thomas Colt Manage and Table 100 to Thomas Colt Manage of Manage and Table 100 to The Oranace of Manage Colt Manage Co

The gan was received on June 5th, but the 10,000 rounds of small erms ammunition was not included. Let on June 5th, I wrote to Springfield, stating that no ammunition was received with which to make a test. I cheeld for five hundred rounds, which were some me. I cheeld have a larger supply and so wrote for five or six hundred more cartriages.

I om perfootly willing to poy for them, as this would be a vory small amount compared to what I have already contributed in this work. But the chief essential is to get the cartridge here as quickly as possible.

Very truly yours,

BUM-EG



MORGAN MACHINE CO. BOX MAKING MACHINERY NAILING MACHINES INIVERSITY AVENUE AND GULVER HOAD

ROCHESTER, N. Y., U.S.A. September 14, 1918. Subject: Feeding Device

for Machine Gun.

Mr. Thomas A. Edison, Orange, New Jersey.

My dear Mr. Edison:

I am this morning in receipt of a letter from the office of the Chief of Ordnance, Engineering Division, Washington, J. S. Hatcher, Major, Ordnance Dept., U.S.A. (O.O. War Department, E.S. 928), copy of which I enclose.

Under the circumstances, it will not be necessary to have the additional certridges mentioned in my letter of yesterday. The reason I wrote for these was that I thought possibly someone from Washington would come on to Rochester and test the feeding device, but as the request is to send the gun to Teshington and then to Springfield Armory, I will not require the additional cartridges and have written the Department to that effect.

I will send the device with the gun, as directed in the letter just received, and trust it will prove to ORFAN NACHINE CO. ROCHESTER N. Y. CONTINUATION SHEET NO. T.A. Z.

be of some service to the Country. I wish to thank you for calling my attention to this matter in the first place, as it is a source of satisfaction even to have attempted to do something that was wanted at this critical time.

Very truly yours,

HWM-EG

Humorfan

# [ATTACHMENT/ENCLOSURE]

# COPY

War Department, Office of the Chief of Ordnance Engineering Division Washington

To insure prompt ettention, in replying refer to E S No. 400.111 Attention of 928 Capt Stanley

September 11, 1918.

. 1

Mr. H. W. Morgan, Morgan Machine Company, University Ave. & Culver Rd. Rochester, N.Y.

Sir;-

I am directed by the Chief of Oranane te admontalege receipt of your letter dated angust 19th (\$2.8 400.111/890), in which you state that you have succeeded in perfecting a feeding device for machine gums . Which device you have developed on a Colt gum which was recently supplied you.

In order that this arrangement may be seen by the authorities in this office, it is desired that it be sent in to be thoroughly examined and then probably forwarded to the ikenine dun Teeting Station at Springfield armory where very careful tests will be given to determine the practicability and applicability to different gums.

Your activities are very much appreciated, and this Office wishes to congratulate you on the success which has rewarded your efforts.

Respectfully.

J. S. HATCHER Major, Ordnance Dept., U S A.

By: G. U. Burdett
G. U. BURDETT
Captain. Ordnance Dept., U S A.

Sopt. 16,1918.

Hr. H. W. Morgan, University Ave. and Culver Read, Rechester, H.Y.

My doar Mr. Morgan:

## SUBJECT: Peoding Dovice for Machine Gune+

I have received your letters of September 13th and 14th, in regard to the feeding device for machine guns, and have read the same with a great deal of interest. I feel that congratulations are due you on having developed a working device in so there a time, and trust that the Officer of the Ordnance Department will find it ominently satisfactory and practicable for use in field work.

I have written to Hajor Hatcher and Liout. Col. McFarland of the Ordnance bepartment, asking them to make a report to me at once after the tests are made. It will be very interesting to both you and me to learn what they have to say about it.

I am heartily glad to learn of your willingness to do anything to help out our Country at this time, when it is of such great importance that we all do our best to help win the war.

Yours very truly,



MORGAN MACHINE CO.

BOX MAKING MICHINERY
NALING MICHINERY
NALING MICHINERY
NALING MICHINERY
NALING MICHINES
NO. RECRETER, N. Y. U. S. A. J.

ROCKESTER, N. Y. U. S. A. J.

Dr. Thomas in Edison, fine the effect the letter than the series. We dear it was derived by dear it. I dison: the furpless enemy you neglit part it are it you may be greatered a continue to the series of the greatered a continue to the series of the greatered at the series of the greatered at the series of the greatered at the series of the series

I presume you have proceived a paport on the majoratories people feeding device that I made and soft to the Orangano Department all for test.

Our mappable and the feeding to pattern the content of the

I received a report of the test, together with a letter profit the test, together with a letter profit from the department, which relative the felt of the reservance.

Sefering to your letter of October State of the Common of

Tow will note that the principal difficulties encountered were the failure to feed when the gun was fired at an angle, the weight of the device and the fact that it would have to be redesigned for use with the Srowning gun. If the apport attacks that are attacked that and the second of the secon

has you mry know, there has recently been put into manufacture a form of expendeble unmunition belt and box, which reduces the weight of this equipment and adds nothing to the weight of the gun.

The Chief of Ordnance directs me to thank you for having presented this device for censideration and also for your patriotic efforts.

5990

- KONGAN MACHINE CO., ROCHESTER, N. Y. CONTINUATION SHEET NO. TWO. HOVEMber 18, 1918.

T.A.E.

Owing to the fact that you have been put to considerable expense in developing your device, this Office feels that you are entitled to proper compensation and would be glad to have you submit a bill."

To this letter I replied:

- " I am in receipt of your favor of the 4th, also the report on the machine gun feeding device which I submitted to the Department for the test. I wish to thank you for same.
- I realise that the device was heavier blan need that made in a manufactured may. Yould also state that, all backets the method of applying the operation, the property of the law of the property of the law of the property of the law of the law
- In regard to the expense, I will state that I have no hill to present to the Department. At the request of the "the propertiest" in the request of the Thomas A. Edison to see if a davice of the Thomas A. Edison to see if a davice that the state without a belt, I undertook to develop this device. I am pleased to have made the experiment, and the only compensation for a work of this kind is the satisfaction of knowing that I have tried to serve my Jountry in any way that I son.
- I am also in receipt of a letter today from the Chief of

Ordnance, reading as follows:

- " Referring to your latter of November 8th, I am instructed by the of of Ordannes to again thank you for having on the of Ordannes to again thank you for having on the ordan ordan thank and the ordan orda
- I presume, as the war is now over, there will be no
- need of further work in this line. I am glad to have made an attempt to serve the Jountry.

Very truly yours,

HUL-EG

Humogan

November 21,1918.

# PERSONAL:

Hr. H. W. Morgan, o/o Morgan Machine Co., Culver Road, Rochester, N.Y.

My dear Mr. Morgan:

I am much interested in the contents of your letter of the 18th instant, from which I derived my first information of the results of the test. Although I specifically requested the Department to keep me informed of the results, I have not yet heard from them.

Let us thank you very much for the full information you have sent me. Your notion throughout the entire transaction has been very fine. If you take much interest in this improved device, you might put it on a business basis by filing an application for petent and continuing to perfect the device. These Ordinance people are incapable in this respect. All advances are made by outsiders.

I think your method is the only proper one, as belts, cloth or paper, are fundamentally unsatisfactory and probably always will be.

Yours very truly.

A/5990.

DEPARTMENT OF COMMERCE

Mer Edison 
The principle of this
happen feed for Medine gome is the
first the Chief objection in,
There is not room in either
the Colt or Vickers gum for the
Chain which is to concry the attregate
the gum, I are grades to use it the
gums would have somewhat different
to come the fresent recoil affection
to turn the sprocket wheel as ther
to turn the sprocket wheel as ther

Wolfer

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# 

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